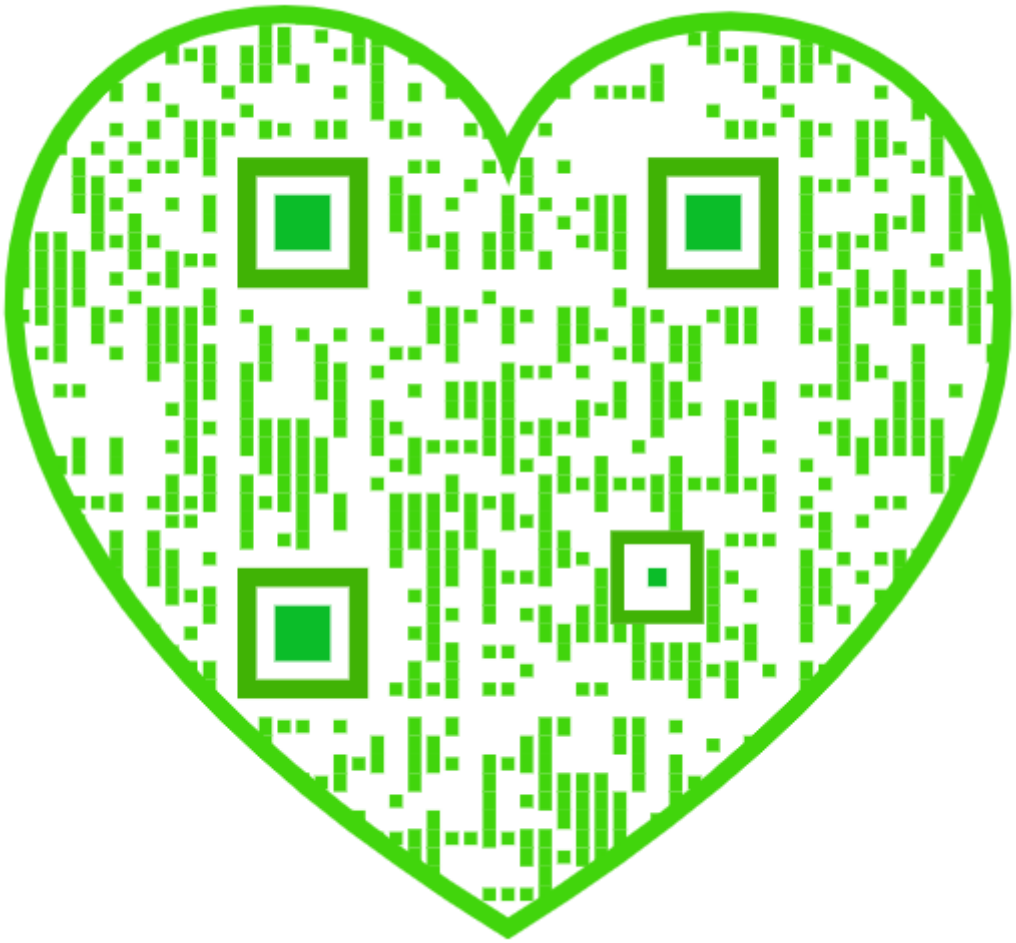

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Who's Who in this Issue

HART WOOD, architect of Honolulu, whose work is illustrated in this number, was born December 26, 1880. His architectural career began in the office of Marean & Norton of Denver, Colorado, under the tutelage of Albert Junius Norton. Mr. Wood came to California in 1902 and entered the office of Bliss & Faville in the spring of 1903. He remained with this firm ten years and obtained most of his architectural training in this office. Mr. Wood served as chief designer at the time Bliss & Faville turned out the plans for the Bank of California, Columbia theater, St. Francis hotel, Savings Union Bank and Masonic Temple. In 1915 Mr. Wood formed a partnership with H. G. Simpson and this firm designed the Santa Fe building at Market and Second streets, San Francisco. In 1919 Mr. Wood went to Honolulu, where he was associated with C. W. Dickey, later forming a partnership under the name of Dickey & Wood, which partnership was discontinued after about one year and a half, when Mr. Dickey returned to the Mainland. Mr. Wood then continued the practice of architecture in Honolulu under his own name and from 1926 to 1928 he was again associated with Mr. Dickey in designing important buildings in the Islands. Mr. Wood loves his profession as indicated by his views on the subject. He says: "I cannot think of anything I would rather be than an architect. I thoroughly enjoy my work. I have four sons and hope they will all be architects."

MISS JULIAN C. MESICK, artist, whose article on Architectural Models is published in this number, was the recipient of an Honor Award at the recent San Francisco Architectural Exhibit. The model which won distinguished recognition is illustrated in her article. Miss Mesick spent fourteen practically continuous years in the architectural offices of Mead, Requa and Jackson, San Diego, and Charles W. McCall, Oakland, with a draftsman's full responsibility. Besides other and earlier business experience she has studied with many well known teachers and artists.

Miss Julia Morgan, architect, San Francisco, in 1920, recognized possibilities in Miss Mesick's small sculptured house model, and models for Miss Morgan have included some of the latest work in her office among which are the San Simeon ranch buildings for William Randolph Hearst. Architectural model making now claims Miss Messick's time exclusively, which she believes a greater service to architecture. She is an active member of the San Francisco Society of Women Artists.

WILLIAM TEMPLETON JOHNSON, designer of the buildings of the United States Government for the Iberian-American Exposition at Seville, Spain, and the Junipero Serra Museum, San Diego, illustrated in this number, is a native of New York city. Mr. Johnson studied architecture at Columbia University and Atelier Laloux, Paris, France. He has practiced in San Diego for sixteen years. Among Mr. Johnson's recent buildings are the San Diego Trust and Savings Bank building, the Junipero Serra Museum, the Samuel I. Fox building, and the Fine Arts Gallery in Balboa Park which won an honor award of the Southern California Chapter of the American Institute of Architects.

H. ROY KELLEY, winner of the first grand prize in the National Better Homes Architectural Competition, is a graduate of the Architectural School at Cornell University. He also studied in the Atelier Laloux in Paris and is at the present time practicing in Pasadena, California. Mr. Kelley's success in this competition is no surprise to his friends. He has been a frequent winner in other contests of which the following are outstanding: Own Your Own Home Competition, Biscayne Boulevard Gasoline Filling Station Competition, the Competition for Biscayne Boulevard Traffic Signal and Street Lighting System, and the Chicago Tribune Five Room House Competition.

Mr. Kelley is prominent in Chapter and Club activities in Southern California, having served in official capacities in both organizations.

ROPER & GILL, structural engineers and designers of the first steel frame house in Oakland, were first associated together on construction work in 1915 in Alaska with the Alaskan Engineering Commission. They have for the past few years been specializing in structural design and superintendence. Mr. Roper is a graduate of the University of Michigan, class of 1914; Captain of Engineers during the World war and later with Stone and Webster, Inc., on the design of industrial buildings and power plants. Mr. Gill is a graduate of Stanford University, class of 1915. He spent some time with the American Bridge Company and McClintic Marshall Company in Chicago on steel structures and later was with the Pacific Gas & Electric Company. He spent several years in engineering work with oil companies in California.

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CHINESE CHRISTIAN CHURCH

The First Chinese Church of Christ, Honolulu, Hart Wood, architect, is a modern adaptation of Chinese architecture. The design was won by Mr. Wood in open competition, the program stipulating that the building should preserve a churchly atmosphere, yet be an unmistakable expression of its Chinese congregation. The architect achieved this by designing a simple auditorium with a steeple rising from the left hand corner. The steeple, however, is nothing less than a pagoda.

CHINESE CHRISTIAN CHURCH, HONOLULU

HART WOOD, ARCHITECT

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ADAPTING ORIENTAL ARCHITECTURE TO AMERICAN NEEDS

By: Loraine E. Kock

HALFWAY between America and Asia lie the Hawaiian Islands, a stepping stone between the East and the West. Their position is strategic to achieve a blend of the two great races and cultures, and that in fact, is happening. The Islands are often referred to as a laboratory where a unique ethnological experiment is taking place, and various interests, including the Rockefeller foundation, are making studies of it. Numerically, the Oriental races predominate, but politically and socially the Islands are American. Culturally, the trend has all been away from the Orient, the younger generation despising, and ignorant of, its tremendous heritage.

But in recent years, indications of an awakening to this loss have appeared. Courses in Oriental culture are offered at the local university; Oriental drama has been presented in English, and an art museum has made available examples of the finest art of the East. In architecture, a number of the most notable new buildings in Honolulu show a distinct tendency to adapt Oriental design to American needs.

Conspicuous among such buildings is the work of Hart Wood, architect, illustrated herewith. Several years ago, Mr. Wood designed a residence for Mrs. C. M. Cooke, using details of decoration derived from the Chinese. Illustrations of the house have appeared in this magazine. It was so successful that interest was stimulated in the subject, and he has since executed a number of commissions using the same theme.

Mr. Wood is known in Honolulu as one of a small group working to develop a style of architecture which shall be typical of the Islands, adapted to the special needs of the island climate and artistically expressing the peculiar environment.

His success in working out an adaptation of Chinese architectural design for use in American buildings can well be of widespread interest, since it offers suggestions for structures all over the country—Oriental gift shops, Chinese cafes and the like—where the theme is appropriate.

In Mr. Wood's work there is a notable lack of the garishness, over-ornamentation

and "weirdness" too often loosely associated with Oriental architecture. His roofs curve, it is true, but only slightly; colored tiles are used, but in a restrained manner. There is an amazing similarity, in fact, between the Hart Wood adaptations and the popular Mediterranean style. In both, the walls are of stucco, quite plain, the roofs of tile, the whole effect one of substantial simplicity. The only difference lies in the details of ornamentation, mostly about the doors and windows.

One of the more noticeable of these decorative details is found in the designs of iron grill work, leaded windows, balcony railings and like places. Chinese designs are geometrical, mostly coordinated squares and rectangles, entirely different from the curves and filigree work of the west.

Another characteristic form of decoration is the plaster lattice, a feature which finds many uses in a sub-tropical climate. The insertion of a grill of plaster in a plain stucco wall, the design and size being in keeping with the medium, offers one of the most charming forms of decoration imaginable.

The introduction of color by the use of tiles is interesting also, not only in tiling for the roof, but inset in the walls as decoration. Where wood is used, natural teak is preferred, and the pillars are simply slender round columns with a characteristic cross bar treatment at the top.

RESIDENCE OF GEORGES de S. CANAVARRO, HONOLULU
Hart Wood, Architect

An outstanding example of such a building is the branch shop at Waikiki of the S. & G. Gump Company of San Francisco. It is of two story, concrete construction of pleasing design. The walls are of white stucco, the gutters, leaders and leader heads are of antique copper verde, and the plaster grills as mentioned before. It proves a particularly effective way to use this form of decoration. Gateway openings in the walls are of quaint and unusual design, one of them being a "moon gate" which is shown in one of the illustrations. The circle motif appears again in one of the

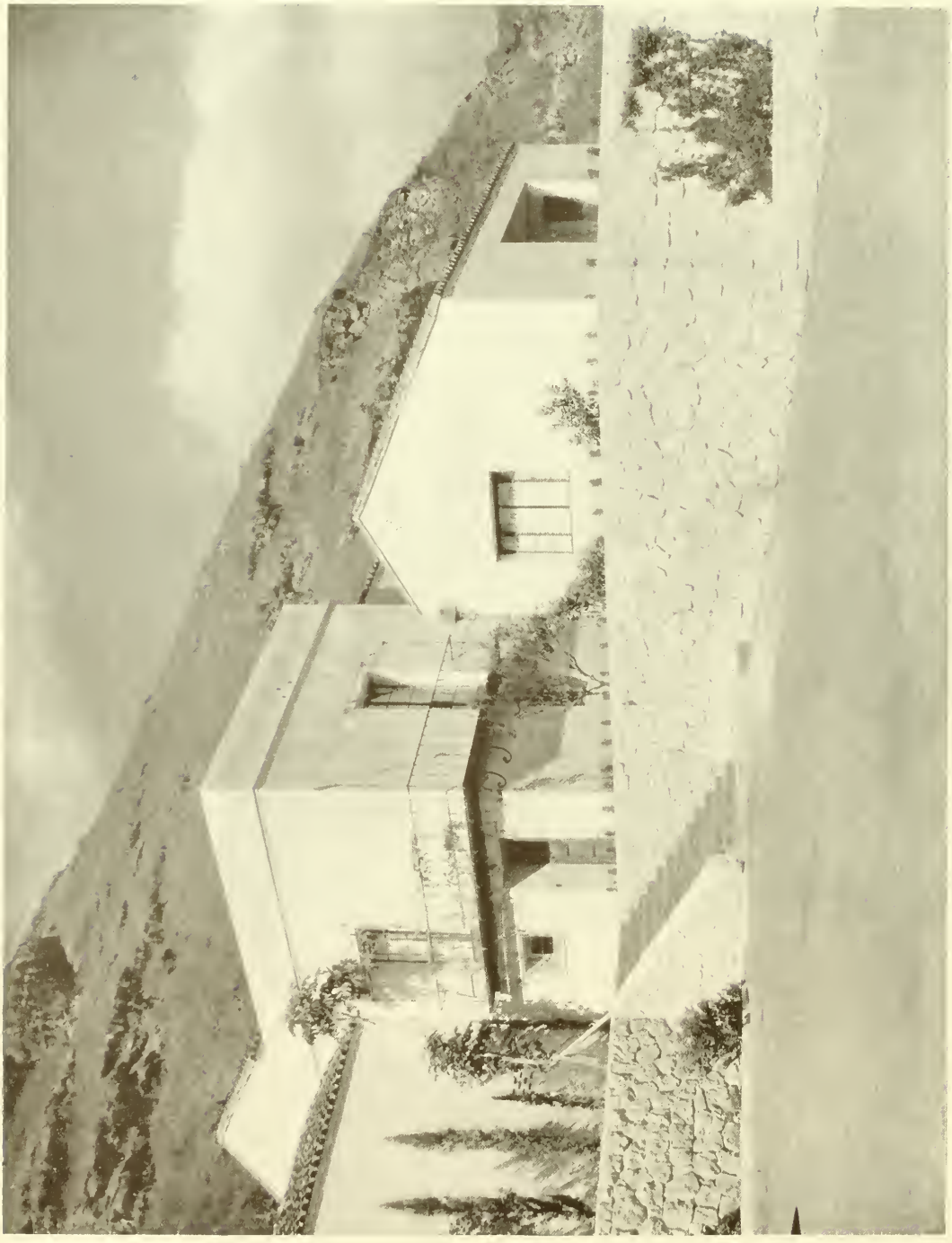
COURT, RESIDENCE OF GEORGES de S. CANAVARRO, HONOLULU
Hart Wood, Architect

slightly curving roof of imperial blue tiles. This brilliant blue is a favorite roof color in China and one that blends well with the blue of the sub-tropical sky. No other colors than this blue, jade and white appear in the building, except the dark teakwood pillars of the entrance and railings of the several balconies.

A white plaster wall incloses three courtyards, and these walls are pierced by windows of the shop. All the windows show the geometrical design in the shape of the panes or in grills. Balcony railings are also geometrical.

George Mellen, a Honolulu writer, describing his impressions of the Gump building, pays this tribute to Mr. Wood's versatility:

"Hart Wood, the architect, must have heard from out the fathomless reaches of



FORECOURT, RESIDENCE OF GEORGES de S. CANAVARRO, HONOLULU
HART WOOD, ARCHITECT

GALLERY, RESIDENCE OF GEORGES de S. CANAVARRO, HONOLULU
HART WOOD, ARCHITECT

DETAIL OF DOORWAY, CHINESE CHRISTIAN CHURCH, HONOLULU
HART WOOD, ARCHITECT

DETAIL, S. & G. GUMP BUILDING, HONOLULU
HART WOOD, ARCHITECT

THE S. & G. GUMP BUILDING, HONOLULU
HART WOOD, ARCHITECT

MOON GATE, S. & G. GUMP BUILDING, HONOLULU
Hart Wood, Architect

Time the yearning voice of his fellow craftsmen and perhaps, the plea of the very materials in which he wrought that, like the potter's clay, with their all-obliterated tongues, murmured 'Gently, brother, gently, pray!' By no other thought can I account for an achievement so satisfying.

"The building is not strictly of any land or period.

"It bears the decided stamp of the Chinese, harmoniously blended with what we think of as Hawaiian architecture. Certainly it lends an air of distinction even to a section dominated by the splendid Royal Hawaiian hotel across the way. It occupies only a portion of the lot, the remaining portion being given over to high walled gardens for the display of outdoor wares appropriately, where wares may be best displayed, and to an automobile court. This plan, besides giving individuality, assures ample light and air regardless of future growth adjacent and offers a delightful view toward the mountains.

"Hart Wood has taken full advantage of this setting to express in stucco walls and tile and wood that friendly charm, hospitality, spaciousness and atmosphere of welcome which we have come to expect in our recent Hawaiian buildings, whether of Spanish, Italian, English or Oriental influence. Against the exterior walls of oyster white stucco is contrasted the imperial blue of the roof tiles and the green verde an-

ITALIAN ROOM, S. & G. GUMP BUILDING, HONOLULU
Hart Wood, Architect

tique copper in gutters, leaders and leader heads. All exterior woodwork is of real Burmese teak, the rich red-black finish that is characteristic of the best Chinese furniture. The antique green of the copper work furnishes a softening transition between the roof's intense blue and the gray-white of the walls. The whole, set against a clear blue sky and the cloud-banked green tapestry of the Koolau mountains, presents a picture of rare color values.

"Ceilings in the chinaware room and the Oriental hall are rough concrete, with form marks left exposed. By treating with naphtha stains and dry colors, the texture of the concrete is preserved but given an added richness of appearance not obtainable with plaster or other methods of treatment. The ceiling of the Spanish room is done in wood with weathered treatment in antique grays.

"Floors throughout the building have the mellowed and weathered effect naturally associated with centuries of traffic and affectionate care, an appearance most successfully stimulated by treating with acids and stains to produce amber and jade and terra cotta tones. Utilitarian fire extinguishers are placed behind teak-finished doors, with Chinese hardware. All store fixtures, cases and the like, were designed by Hart Wood, to carry out the motifs of the whole."

Quite different in its effect from this store building, is the First Chinese church of Christ, recently completed. Mr. Wood's design was won in an open competition, the competition program providing that

ORIENTAL HALL, S. & G. GUMP BUILDING, HONOLULU
Hart Wood, Architect

the building should preserve a churchly atmosphere, yet be an unmistakable expression of its Chinese congregation. The architect achieved this by designing a simple auditorium under a single roof, with a steeple rising from the left hand corner. But the roof curves sharply to the ridge, and the steeple is nothing else than a pagoda!

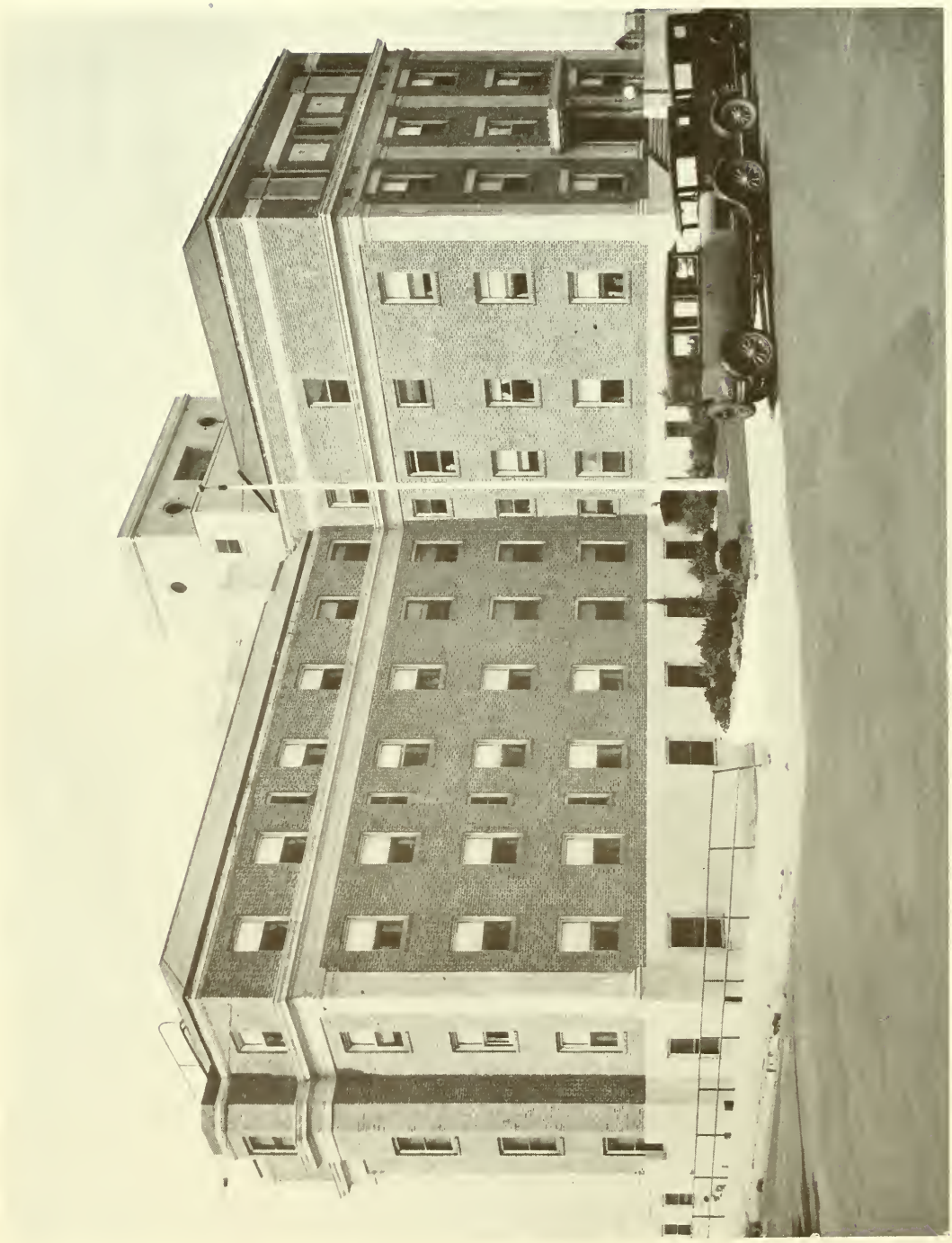
To adapt the plan of the church to island conditions, where a full sweep of the cool trade winds is desirable, the side walls of the auditorium can be opened almost completely onto parallel wide verandahs, known in the islands as "lanais." The floors are of cement in soft green tones, and the interior walls are of light green, maintaining a cool harmony.

The most conspicuous decorative features inside are two stained glass windows; one over the altar—a rose window with a Chinese lotus leaf interpretation, the other a rectangular opening over the main entrance, the central motif of which is a Chinese cross of the Nestorian type. This is one of the few surviving decorative forms of a little known sect which Marco Polo, distinguished writer, mentions in the account of his travels.

Outside, the walls are of stucco with an almost imperceptible greenish tint and terra cotta in soft green and old rose inset in a border on the rake of the gables. Similar colored tiles form the ornamentation about the main entrance door, the lintel of which ends in sharply upturned curves.

FORECOURT AND ENTRANCE TO RESIDENCE OF PAUL S. WINSLOW, HONOLULU
DICKEY & WOOD, ARCHITECTS

GARDEN FRONT, RESIDENCE OF PAUL S. WINSLOW, HONOLULU
DICKEY & WOOD, ARCHITECTS



ALAMEDA SANITARIUM, ALAMEDA, CALIFORNIA
EDWARD T. FOULKES, ARCHITECT

WILLIAM TEMPLETON JOHNSONS EXPOSITION and MUSEUM BUILDINGS

By: Fred'k W Jones

THE buildings by William Templeton Johnson of San Diego illustrated here, are interesting examples of our modern trend toward early Spanish-American architecture. The Junipero Serra Museum is probably more ecclesiastical than the group of Exposition buildings in Seville, Spain, but all of the structures, nevertheless, reflect the architect's fine appreciation of a style that prevailed in Spain and Mexico and later was brought to California.

The Iberian-American Exposition which was inaugurated in Seville, Spain on May 9th, 1929, was promoted principally to bring about a closer relationship between Spain and Portugal and the countries they colonized in the new world. The governments invited to take part were the republics of South America and Central America, Mexico, Cuba and the United States.

The site chosen for the Exposition is the beautiful Parque Maria Luisa situated on the Guadalquiver river and but a short distance from the center of Seville. In a setting of elaborate formal gardens, the Spanish government erected four permanent buildings as a nucleus of the Exposition, and it is proposed that these may be used after the Exposition for the creation of a university. It is planned that the buildings shall remain open until July first, 1930. The climate of Seville is not unlike that of Southern California except that it is hotter during the summer months.

The buildings of the United States are three in number and occupy one of the best sites of the Exposition grounds, facing on one side the Avenida Maria Luisa, and on the other the Paseo de la Orilla del Rio along the Guadalquiver.

The principal building, a permanent structure, destined later to become the Consulate of the United States, is hexagonal in form, two of its facades being parallel to the above named parkways. It is two stories high, constructed of brick and covered with stucco, has tile roofs and a central patio with covered porticos opening upon it. The style of architecture is Spanish Colonial. Within all the most modern American conveniences are installed, including steam heat, bath fixtures following the latest practice in the United States, electric refrigerators and washing machines, and many other devices which lighten the work of the household.

During the Exposition this building houses the exhibits of the National Museum of Fine Arts and the Smithsonian Institute. At the close of the Fair, it is adapted to become the business office of the United States Consul. A suite of rooms will be set aside for the Consul's use. There will be an apartment for the Vice Consul, and a large room on the second floor will contain a library for the use of American students who are sojourning or studying in Seville.

One of the temporary buildings houses exhibits of the various government departments which are taking part in the Exposition and the other is designed to be used for a motion picture theater so that all the activities of the United States government may be graphically shown upon the screen.

These two buildings are constructed of wood frame covered with stucco and harmonize in a general way with the main building. The grouping of the buildings is about a fore-court with a formal garden fronting the Avenida Maria Luisa.

To choose someone to design the buildings, five architects who had worked in the Spanish American style were invited to send to Washington photographs of some of their finished work which were judged by the Commissioner General with the advice of the National Commission of Fine Arts. From among the five, Mr. Johnson was chosen as architect.

The Commissioner General is Hon. Thomas E. Campbell, former governor of Arizona. The other members of the commission are George T. Cameron, San Francisco, California; Miss Helen Varick Boswell, New York, N. Y.; Judge Roderick N. Matson, Cheyenne, Wyoming; Mrs. Helen Hall Upham, Chicago, Ill.; and Miss Agnes Repplier, Philadelphia, Penn.

The Junipero Serra Museum in San Diego fulfills a three-fold purpose. It marks the land where first the white man settled in California, it celebrates an anniversary of a more ancient date than the founding of our nation, and it provides a home for the San Diego Historical Society.

PATIO, FUTURE CONSULATE, U. S. EXPOSITION BUILDING, SEVILLE
Wm. Templeton Johnson, Architect

It is interesting to ponder about the awe of the California Indians, when the white man reared the first buildings on Presido Hill. These Indians knew no shelter more substantial than the rude wickiup and their curiosity must have been very great as they watched a group of buildings grow slowly before their eyes. Undoubtedly the Indians helped to make the adobes for the walls, and hauled the roof timbers from the mountains. They saw the process of building a kiln to produce tiles for floors and roofs and learned under the instruction of the friars the art of building with sun-dried bricks set up with mud mortar.

A rugged simplicity marked the design of the twenty-one missions built by the Franciscans in California. This was very natural for in design the Friars had to rely upon recollections of church architecture in Mexico and Spain, and the structures had necessarily to be simple enough to be built by priests and the soldiers with what help they could get from the Indians. Most of the buildings were constructed of adobe bricks, a few of stone. All had thick walls

and simple masses, and a sturdiness and frankness in design which gave them much charm.

The Junipero Serra Museum is designed in close sympathy with the spirit of the architecture of the missions, but built of enduring concrete. The architect has endeavored to preserve the feeling of the missions without making the building too ecclesiastical in appearance.

one end of the structure and at the other end is a vaulted library with adequate toilet and storage facilities. Open terraces completely surround the building giving access to beautiful views in three directions. At the south end of the structure there is an arcade, after the type often found in connection with the Missions. This is partly closed by a wall on the East so as to provide a shelter for visitors who wish to sit

DETAIL, FUTURE CONSULATE, U. S. EXPOSITION BUILDING, SEVILLE
Wm. Templeton Johnson, Architect

The walls are white stucco, the roofs are covered with tile of mossy shades, while the floors and steps are made of tile of a texture similar to the old ones dug from the ruins and laid in the South entry of the building. The woodwork is as simple as it must have been when made by the monks with their scanty supply of tools.

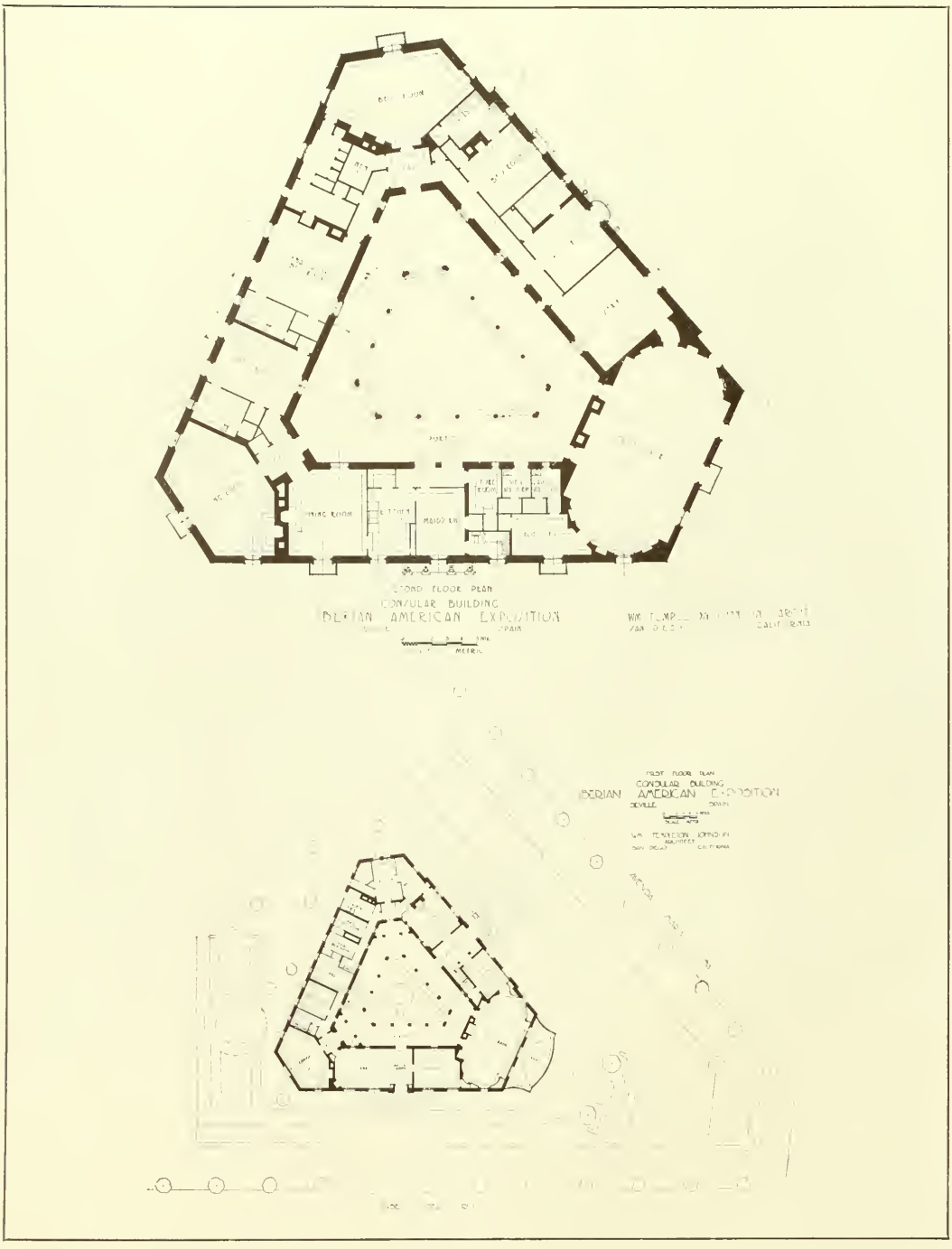
The building proper consists of a great room with an open timber roof with balconies at either end. There are offices at

under the arcade, but the three central bays are open, and provide a charming prospect looking directly up the valley to the San Diego Mission.

A tower seventy feet in height surmounted with a bronze weathervane—the "Bear" of California—is the crowning feature of the composition and from the balcony at the base of the dome, there is a wonderful panorama. A low wall below indicates the limits of the Spanish settlement.

DETAIL, EXHIBITION BUILDING, IBERIAN-AMERICAN EXPOSITION, SEVILLE
WM. TEMPLETON JOHNSON, ARCHITECT

FACADE, FUTURE CONSULATE, U. S. EXPOSITION BUILDING, SEVILLE
WM. TEMPLETON JOHNSON, ARCHITECT



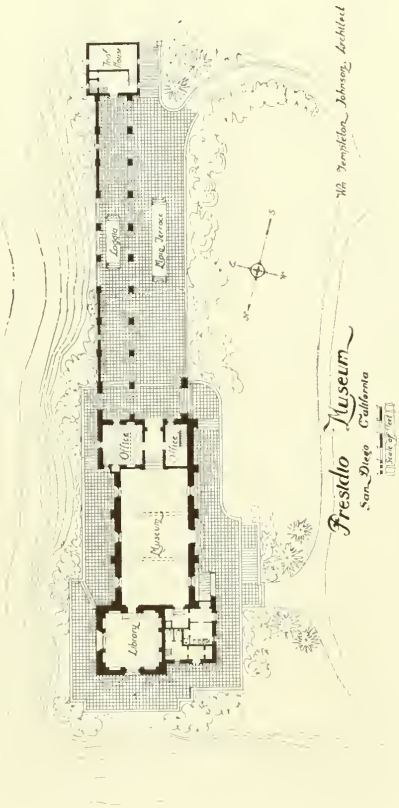
PLANS, FUTURE CONSULATE, U. S. EXPOSITION BUILDING, SEVILLE, SPAIN

WM. TEMPLETON JOHNSON, ARCHITECT

FACADE OF CINEMA BUILDING, IBERIAN-AMERICAN EXPOSITION, SEVILLE

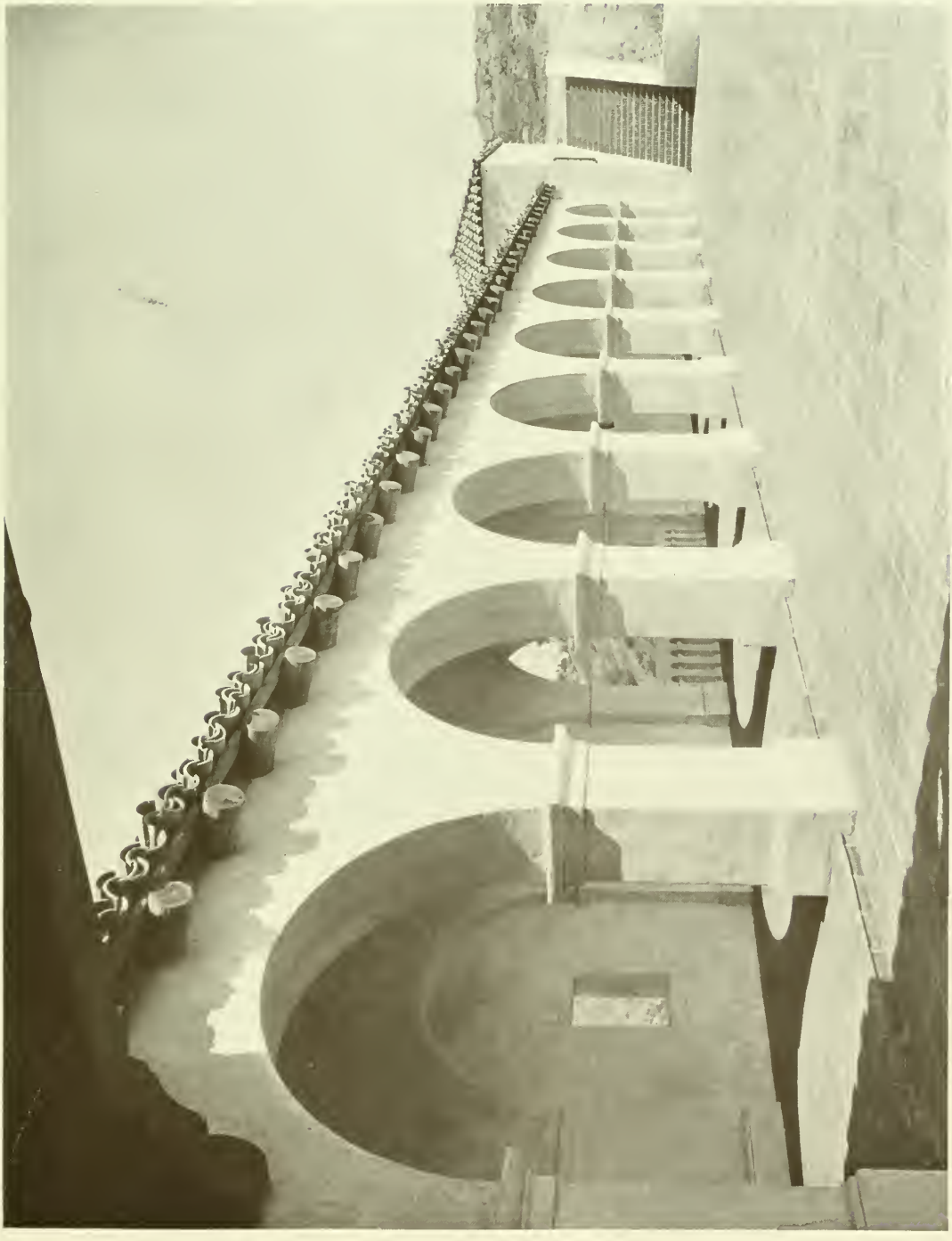
WM. TEMPLETON JOHNSON, ARCHITECT

JUNIPERO SERRA MUSEUM, SAN DIEGO, CALIFORNIA
WM. TEMPLETON JOHNSON, ARCHITECT



PLAN, JUNIPERO SERRA MUSEUM, SAN DIEGO
WM. TEMPLETON JOHNSON, ARCHITECT

JUNIPERO SERRA MUSEUM, SAN DIEGO, CALIFORNIA
WM. TEMPLETON JOHNSON, ARCHITECT



JUNIPERO SERRA MUSEUM, SAN DIEGO, CALIFORNIA
WM. TEMPLETON JOHNSON, ARCHITECT

JUNIPERO SERRA MUSEUM, SAN DIEGO, CALIFORNIA
WM. TEMPLETON JOHNSON, ARCHITECT

COMMON BRICK in MODERN VERSIONS

By: Zoe A. Batto

TO dwell upon the ancient historical traditions of brick, its durability and fire resistant properties and its fine weathering qualities, is mere hum-drum reiteration of details, which are quite as familiar to the practicing architect as is his own name. Considering the use of such a time honored material, the present day architect is primarily concerned with three questions, namely:

First—Modern architecture, being, as it is, so vastly occupied with the uses of materials to achieve unique yet harmonized effects, does this old material (common brick) now offer sufficient variations in color, texture, unit sizes and methods of laying to create the desired, noted results?

Second — In so-called modern architecture, what are the possibilities of common brick in accenting and creating the effects of verticality, or maintaining simplicity combined with variety — the latter quality being achieved with a minimum of ornamental devices and of material other than the basic one?

Third — The cost?

APARTMENT BUILDING, WARFIELD AVENUE, OAKLAND
Willis C. Lowe, Architect

Every building, of course, is a problem and law unto itself and no one building, embodying any given material, may be unconditionally offered as the ultimate solution in the use of that material. But the fact remains that the presentation and analysis of a building, in which the material in question is a basic one, is the most convincing method of arriving at a fair and satisfactory understanding of the problem involved. In the newly completed East Oakland high school, Foothill Boulevard at 87th Avenue, there exists, perhaps, the most completely convincing answer to the architect's first question. As a matter of statistics, the brick consists of 60 per cent klinkers and 40 per cent dark, hard burned, common brick. As a matter of craftsmanship, the bricks are laid in Flemish bond with mortar joints flush and, in some cases, slightly overlapping the brick surface. As a matter of artistry, the wall surface has the subtly lustrous, luxurious quality and suggestiveness of heavy draped velvet. As one views the building in the full light of the day and again by the mellowing

light of late afternoon, the soft depth, the rich sheen, the dusky shadows so characteristic of this fabric, play upon the wall surface with alluring effect.

So admirable results are possible only by reason of the fact that common brick, as the architect finds it today, differs radically from the common brick of yesterday—plain, smooth, bland, solidly and dully colored as it was. The modern philosophy of color and texture has not been lost upon the makers of common brick. Its reds run from the deepest wine shades, through the pinks and salmon pinks to tones of purple. Browns and yellows in pastel casts are readily available; two or more colors delicately blended and mottled are every day affairs. Various irregular surface treatments create all sorts of textures. This diversity of color and surfaces, together with the possibilities inherent in skintling, pattern laying and various mortar joint treatments, provide the architect, for all practical purposes, with a great palette to create with almost as he will. On this account, he can no longer specify so many thousand bricks for so many feet of wall surface to be laid plainly and regularly. Every thousand lot must be made up of a predetermined number of light and darker bricks and klinkers. The laying, the mortar color and joint treatment must be considered in relation to color and texture and the mass effect desired — matters to which the manufacturers have given competent attention and upon whose guidance the architect may safely rely.

SHRINE HOSPITAL FOR CRIPPLED CHILDREN, SAN FRANCISCO, CALIFORNIA
Weeks & Day, Architects

In the Bellevue-Staten Apartments, Bellevue and Staten Avenues, Oakland, common brick successfully enters into a distinctly modern type. Here the lines are

vertical, outlined and accented by cast stone in formalized design. By continuing the design, the brick and stone work upward to enclose chimneys, pent houses and the like, these utilitarian units are concealed and become, in reality, integral parts of the vertical scheme, rather than liabilities to it—a remarkably ingenious device, destined for wider uses in apartment houses of this type.

The brick, as here employed, is in dark red, salmon and purple shades with 10 per cent klinkers in the face. The thousand lots were carefully made up and selected to obtain the desired color effect with the result that the brick lends a certain softness and warmth to the vertical lines, which otherwise might easily have been too rigid and forbidding. And this is accomplished without injecting any irrelevant note into the formalized simplicity of the design as a whole.

The Rosmar Manor Apartments, Lakeshore and Excelsior Avenues, Oakland, is a good example of a house, in a high class semi-residential and business neighborhood, where the problem was obviously to provide a building plainly but well designed, of substantial but not too costly construction and of good appearance, so that rentals, at moderately average figures, would attract a fairly prosperous class of business and professional people, wishing a central yet desirable location.

SIGMA PI FRATERNITY HOUSE, BERKELEY, CALIFORNIA
Frederick H. Reimers, Architect

So far as outer wall treatment is concerned, common brick in brown and reddish brown tones with 10 per cent klinkers, fulfills all these requirements to a remarkably satisfactory degree.

In the Hellman residence, San Francisco,

employing common brick with 20 per cent klinkers, there exists an excellent example of the uses of this material in the city residence, whose appearance must be in keeping with an exclusive, substantial, sophisticated neighborhood.

From the foregoing descriptions and other buildings herewith shown, an adequate idea is gained of the adaptibility of modern common brick to widely varying types of design and buildings, and it becomes apparent this material is a thoroughly desirable one for the finest types of apartment houses, schools, churches, hotels, stores and shop buildings, homes, etc. There remains only the question of cost. The general public and not infrequently the architect, labor under the delusion that brick construction is beyond financial reach, save where the funds available are more than ample for the work at hand. This impression is especially true in the West, where brick construction has not been as prevalent as in the East and Mid-West.

In schools and public buildings generally, the item of cost must invariably be closely watched, yet sound construction and distinctive appearance are equally imperative. This was the case in the East Oakland high school. The same cost requirements were present in the Bellevue-Staten and by reason of its vertical design, the question of appearances, had special significance. In both these jobs the results obtained as to appearance and construction through the use of common brick, are so conspicuously good as to require no further comment. That the material met cost requirements may thus be assumed. Cost factors in the Rosmar Manor house have already been touched upon, and from this instance, it appears that common brick is available to even the most modest structure. In the Hellman residence it is not likely that the architects were arbitrarily bound as to costs; in all probability they were quite free to use any desired material to achieve the wanted result. And yet, it may unconditionally be allowed that they could make no better choice than common brick

BELLEVUE STATEN APARTMENTS, OAKLAND, CALIFORNIA

H. C. BAUMANN, ARCHITECT

DETAIL, EAST OAKLAND HIGH SCHOOL, OAKLAND, CALIFORNIA

MILLER & WARNECKE, ARCHITECTS

DETAIL, RELIEF HOME, SAN MATEO COUNTY, CALIFORNIA

W. H. TOEPKE, ARCHITECT

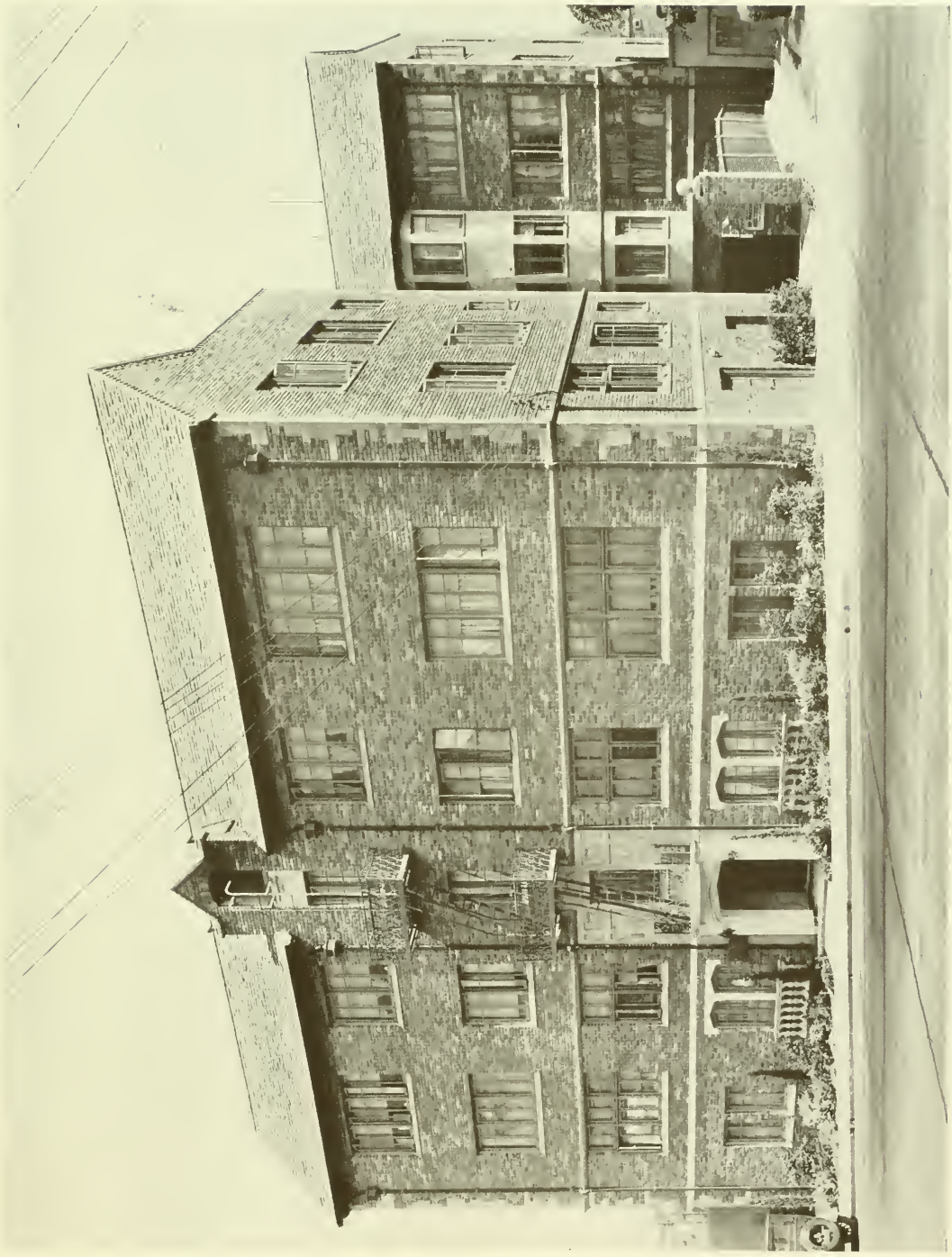
RESIDENCE OF I. W. HELLMAN, SAN FRANCISCO

WILLIS POLK & COMPANY, ARCHITECTS

Photo by W. A. Scott

DETAIL, HOUSE IN PIEDMONT, CALIFORNIA

HARRIS C. ALLEN, ARCHITECT



ROSMAR MANOR APARTMENTS, OAKLAND, CALIFORNIA
CLAY N. BURRELL, ARCHITECT

RESIDENCE OF S. G. HINDES, SAN FRANCISCO
EDWARD G. BOLLES, ARCHITECT

PROBLEMS OF ARCHITECTURAL MODELS

By Julian C. Mesick
Winner of A.I.A. Honor Award, 1929.

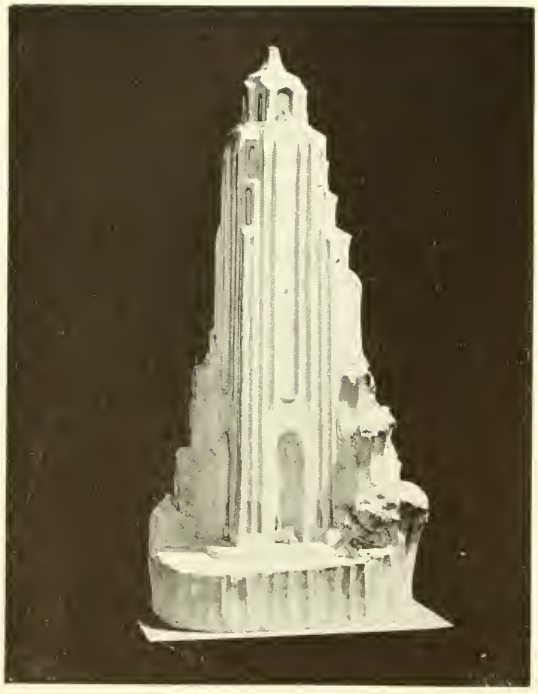
THE realization is dawning that models are necessary to client and architect for mutual understanding, opportunity for visualization of the project by the client and further study and checking by the architect. Clients are learning that the model's extra cost to them is money well spent. They always win—sometimes moderately; usually far beyond their expectations. Their confident feeling during construction of the job that all is well, is not the least of the benefits. They have seen the miniature and no longer rush to the architect for explanations with each new development. They more calmly await the completion day.

Models are expected today where a few years ago they were the exception, consequently their makers have had the opportunity for experimentation and real progress. Models are actually better, more useful and expressive. Today a model is not complete without color, the showing of grades, plantings, roads and indication of adjoining conditions affecting the problem in hand.

Many materials and varied methods have been utilized; all are worthy of consideration under certain conditions, dictated by the purpose, costs, use, etc., of the prospective model. William Harvey's book, "Models of Buildings" published in England, but locally available, outlines possibilties amazing in their scope—yet true To these we are constantly adding by our knowledge of methods, equipment and new materials being placed on the market. We are limited only by our imagination and power of application.

TOWER OF MUTUAL PLANT, OAKLAND, CALIFORNIA
The lower part of tower and building were massed only to give a setting for the study at the top of the tower, hence their sketchiness

We are fully aware of the tax upon an architect's time, but his understanding attention to the advantages and limitations of a model's material will greatly enhance results, be his model maker ever so competent. A maker is primarily an interpreter and will dare far more if certain he has the architect's sympathy. For instance,



STUDY FOR A MODEL, "INSPIRATION"
Fantasy by Julian C. Mesick

there are many ways of indicating openings and rendering planting. If the architect requires indication only, the model may be completed shortly with openings simply marked on. Openings on detailed models are recessed and marked or recessed and fully modeled. It is the architect's province to decide the degree of finish necessary to serve his purpose, hence his need for information on models themselves. The ratios of time required for the type of models here shown is approximately, one for the sketches, three for fairly detailed, six for complete detail, and eight to twelve for the highest practical detail. Models of precious stones, metals and ivory would of course come in a still higher class. Whatever the grade, true collaboration is needed between architect and professional model maker. For complex models in his own office an architect will need to bear even greater responsibility as the average draftsman is not equipped to know or handle any great variety of material.

Being at a Renaissance it is well to consider fundamental principals which determine a model's character. In nine years the method of building the models shown herewith has entirely changed and bids fair to change again with the development of exhibition sets. The general appearance has and will not change except as greater skill is gained, hence one hestitates to record—"I did this, thus and so."—Aims and objects remaining constant seem the important portion of the development.

First, models should permit of changes brought about by the architect's study, during their construction. The project in minature is certain to whet the imagination of all concerned. Experiments, changes and improvements follow; the easier the better, hence the desirability of "plastics." The models of the Samuel O. Hoffman residence show this development. The model held the client's enthusiastic interest even previous to the earlier photograph. At the period of the latter one he took the model home for study. Later it was brought to date by raising the front walls, simplifying the main entrance, etc. Thus the chance of disappointments in the completed work were minimized.

These "progress" photographs are as essential as on the actual job, especially when changes are radical. Also photographs from the proper view points are severe tests of a building's design and worth making. Photographs have a way of showing up a building as others see it.

Second, models should be of as small scale and size as practical. In responsive materials as wax, clay and possibly soap, it is well to pause and consider—the practical is actually much smaller than commonly realized, and it is truly worth while to clear our minds of preconceived ideas if a model maker can demonstrate successful small scale work. In such cases, sixteenth scale for house and immediate grounds, all in an area of a few square inches has solved many problems satisfactorily. They are readily transported, taken home and literally worshipped. Many a model has served as "center" at dinner. The most critical can somehow be charmed into admiration.

At sixteenth scale, windows, doors, roofs, chimneys, in fact everything can be criticised by the architect. The necessity of large scale models has been entirely eliminated by twelfth scale for residences. Sixteenth is often ample for large important buildings. The Inspiration-fantasy model illustrated here, stands twenty-one inches high and is capable of rendering much information as a monumental or skyscraper mass. More detail is easily obtainable and without difficulty.

We cannot over emphasize the necessity for accuracy. Small scale models may then state a problem better than a large scale one for if too large to be animated as sculpture in a short space of time, the forms become wooden and lifeless.

We were once sent to see a large model of one of San Francisco's fine classical buildings. It occupied a lonely office of which the janitor seemed to be custodian. The building's entrances were faithfully modeled, but the intervening spaces were too great to be sympathetically executed, and not yielding readily to indication, the well worked portions lost much by failure to show relationships.

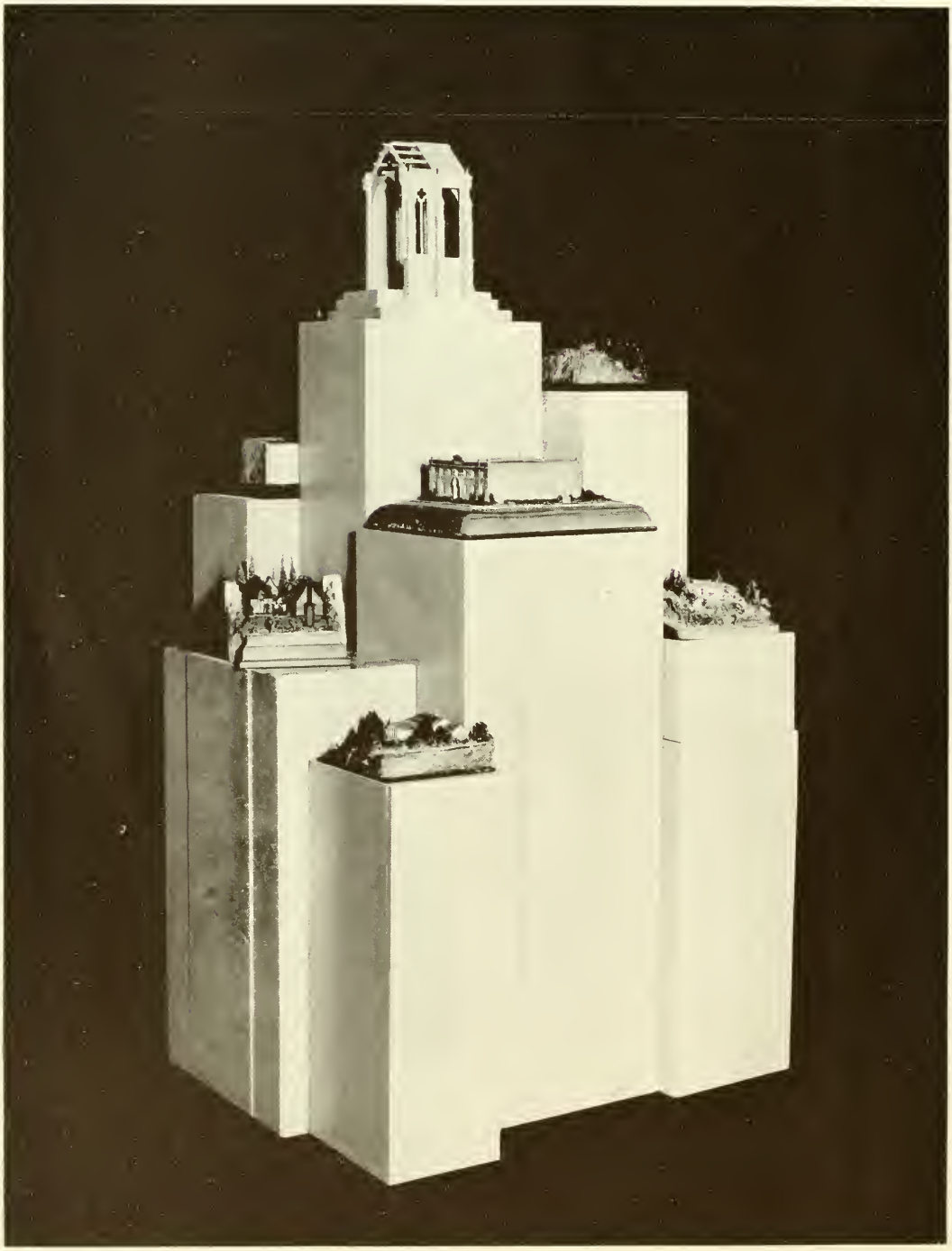
Usually a scale larger than eighth becomes "large," except for structural models, when quarter is usually ample, as shown by Grace Cathedral Chapel model (topmost of the exhibition group). Thirty-second to one hundreth scales serve well for industrial and commercial projects as in the New York terminal for the Dollar Steamship Lines. "No" scale models spontaneously modeled by the designer are best for the first rendering. The freshness of the idea is recorded here regardless of lack of sculptural skill. It is normal for architects to express themselves in form and it is not too much to hope that the habit will become more general; in sketch form at least at small scale, for their own satisfaction.

Third, models for study of design should be in full and correct color, to completely state the problem and permit accurate judgement of voids, solids, roofs, plantings, etc. Models in monotone are actually inaccurate.

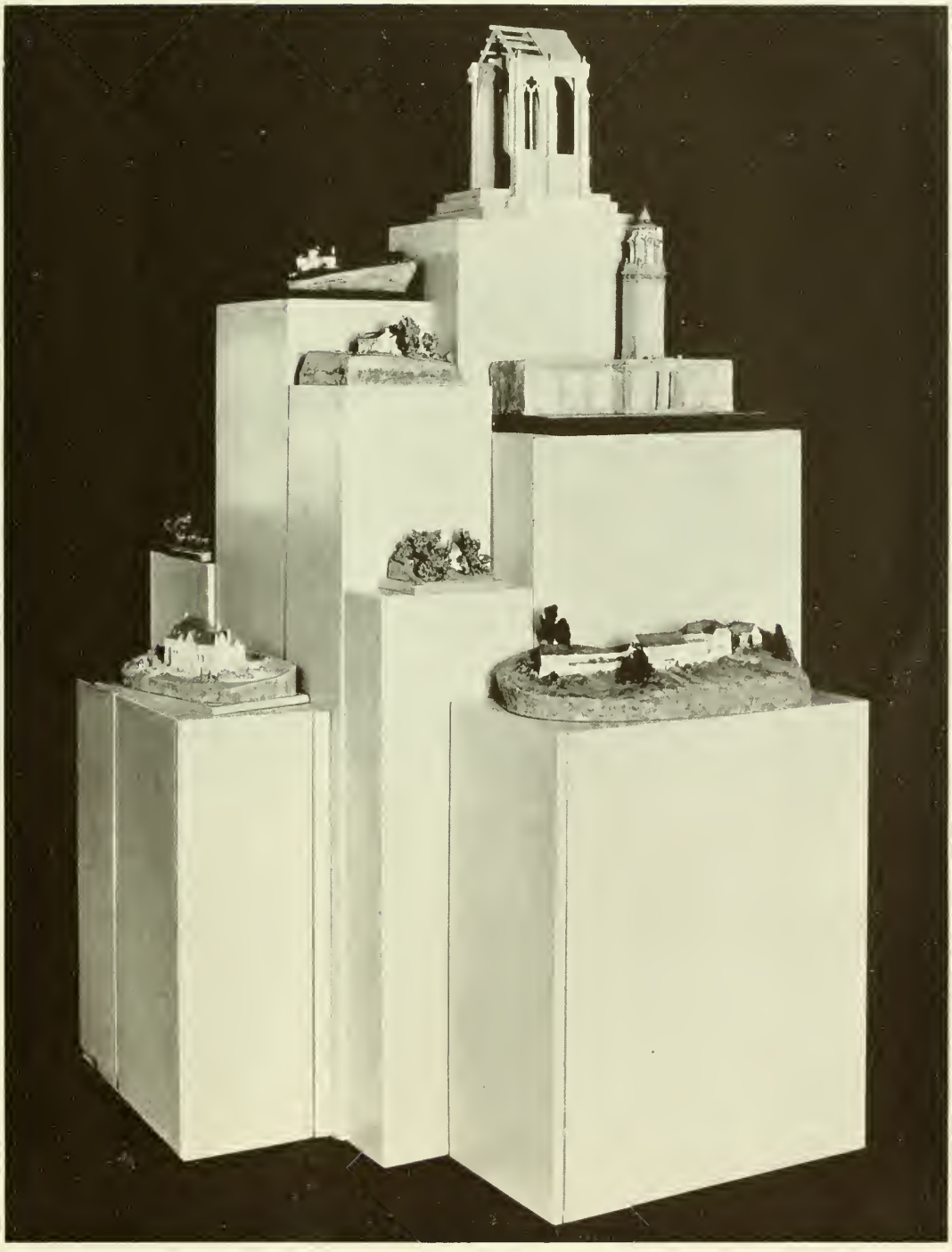
Color is not difficult to obtain, even if one scorns the painted model. Color can be incorporated into wax, clays, plasters and what-not before being used. Stains applied to the finished work give good play of color. Judgment and taste are the surest guides here; for instance all-over coats of heavy paint or shellac are nine times out of ten, fatal, artistically, yet either applied sparingly but consistently and systematically to express a definite thing may add greatly to the finished effect. On very small scale models, heavy oil paint evenly brushed, with a stiff brush, convincingly represents crimped galvanized iron roofing. Painted heads of small nails have been right for representing patent ventilators. Paints and varnishes have "scale" which must be kept correct.

Fourth, models should have charm. Charm does not necessitate fine cabinet finish or modeling. A sketch model is as useful, legitimate and delightful as a sketch in any other medium and can be as appealing. There is no more excuse for ugly models than for ugly drawings. Though a work be limited to a few forms or lines, there is

RESTUDIED MODEL, "INSPIRATION"
Fantasy by Julian C. Mesick



View of group of models shown at the Second Biennial Honor Award Exhibition, Northern California Chapter A. I. A. Reading from left to right, and top to bottom, the models are: Residence by William I. Garren, architect; residence by Charles W. McCall, architect; Grace Cathedral Chapel, Louis P. Hobart, architect; Oakland Mortuary, Harris C. Allen, architect; residence by Walter T. Steilberg.



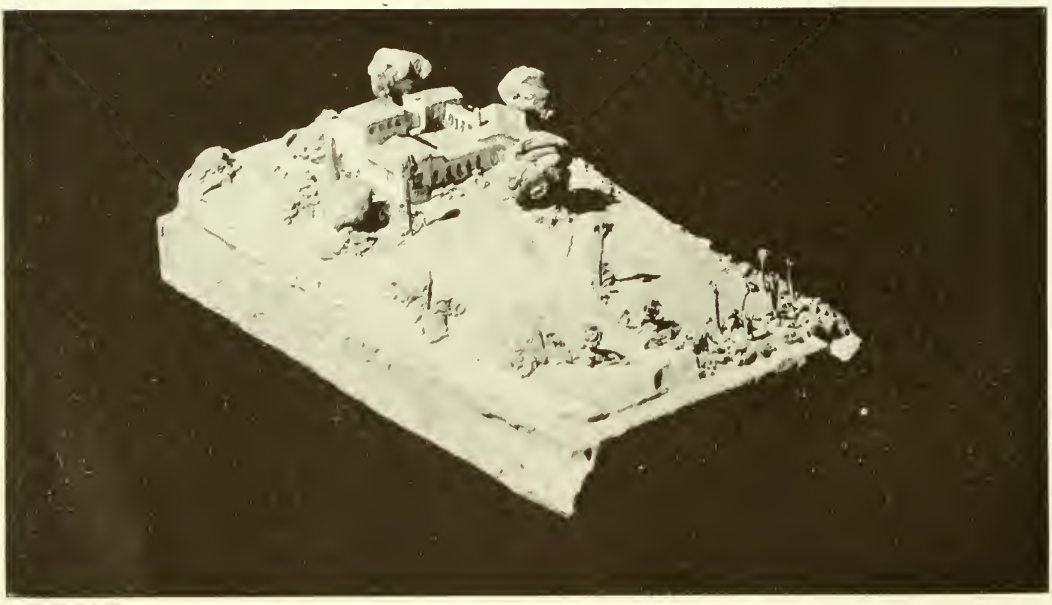
View of group of models shown at the Second Biennial Honor Award Exhibition, Northern California Chapter A. I. A. Reading from left to right, and top to bottom, the models are: Residence by Frederick H. Reimers, architect; three residences by Harris C. Allen, architect; Grace Cathedral Chapel, Louis P. Hobart, architect; Tower of Mutual Plant, Reed and Corlett, architects; residence by C. W. McCall, architect.

a graceful mode of expression, instead of balling the facts in megaphone fashion. Perfection in models should keep pace with architectural progress. As the profession is aware of the possibilities of models, the art will progress, and the unattractive model will tend to vanish.

Many graces are available: color, softened forms, carefully designed bases and surroundings. The difference between success and failure seems very small when expressed in words, and is largely a matter of feeling for design and common art principles, expressed through a fine use of materials, but not because of the use of a certain material. Any material can be dominated and each mature artist will have his preferences, though he will usually handle other types well and consistent with his point of view. "'Tis the set of the soul that determines the goal"—,and gives character to the finished product.

Fifth, models should be "created" from masses of consistent raw material, making additions or deductions freely to sense out the scale and design. "Ready-made" forms as autos, and livestock built into models are almost invariably out of scale and unfortunate.

The same judgement should be used in constructing a model as in writing the specifications for and constructing a building. We can be content to merely follow and use material prosaically or we may feel our materials and rise to artistic heights. In a machine age? Yes—but the artist is needed more than ever to control the machine, and wring undreamed beauties from the standardized article. A fine, intelligent and discriminating use of material is essential to good work of any kind.



A SMALL "NO" SCALE STUDY IN CLAY FOR A COUNTRY HOUSE
Model by Julian C. Mesick

Materials for models should be treated as the paint on the palette, expressing the architect's idea in the same manner. Doors are not always doors, they are voids breaking a surface rhythmically or otherwise. They are patterns in black and white, light and shade or what ever our fancy conjures. Never until things cease to be virtues in themselves will models flow from the makers hand. Stunt tricks for their own sakes, and subterfuges have no more place in dignified model making than in architectural design. To regard models as sculpture has

helped the writer, perhaps it will help others.

All great art is visualized or the result of a vision. Why not construct a shadow picture to shroud the model's rough structure? By it the most discouraging project can be dragged forth to beauty. A beholder's mind is nimble and needs only a suggestion of the architect's purpose to endow the model with the sense of reality, but this reality must have been seen by the artist to be recreated for the beholder by a little paint and plaster.

MODEL OF RESIDENCE FOR SAMUEL O. HOFFMAN, SAN FRANCISCO
Samuel Lightener Hyman and A. Appleton, Architects

Conventionalized and diagramatic forms may become necessary when time or funds are limited—but the maker must never cease to be an artist. Suitability is the keynote; the same laws hold for all types of models for all purposes.

The available time for constructing a model, its ultimate use, it's method of delivery, it's distance to destination, it's owner, etc., also operate to determine the most desirable type of model. These things do not loom large until one is faced by the actual problem, then woe be if a model will not go through a certain door, or into a particular delivery auto, or the bracing is insufficient and wracking and even breakage occurs in travel. Special reinforcing should be considered and built-in from the beginning. Fortunately nothing is impossible, but sometimes certain construction is unwise.

Volumes could be written on the ifs, but who would bother to read? Model making is, in a way, a game of personally practiced methods, because it is representative and not the real building. Some say it is a game of tricks. In a sense they are right, but we have used the words stunt tricks elsewhere and we must not confuse the difference. Stunt tricks are obvious and are called "too clever" in every day life. The legitimate trick is really a code by which a problem is stated. One is not particularly aware of these so-called tricks as they are merely language which is constantly expanded to express new problems.

The story is told of one model maker who ripped the wires from his piano because no other was available at midnight and a model must be delivered next morning. Ten chances to one the studio should

have had a proper supply of wire and the destruction was far-fetched, but—it is a good story. The needs of less common supplies do compel the use of very novel makeshifts which ride to fame.

If one is contemplating the construction of complicated models, an amateur knowledge of painting and sculpture added to that of architecture is very valuable; the more the better if one craves the top rungs of the ladder. Some help can be gained from Mr. John Rowley's book "Taxidermy and Museum Exhibition." Books on recipes and formula found at the reference desk of public libraries are "life savers" for glues, bleaches and what not. Chemistry and a knowledge of strength of materials and construction are useful here as in architectural practice. The sources of information are widespread if one possesses ability for adaptation. With a few exceptions, little is taught in the schools, and for success one is largely dependent on his own efforts, and what he can glean from scattered writings.

In other photographs accompanying this article are shown a group of working models on exhibition. Much larger and more elaborate models have been built by a similar process, and because of the small size of these, grouping was necessary to hold their place with other large work. The various levels gave each model its own setting at a proper eye line. The problems of the various models varied as their shapes and scales. The Mutual Tower model at eighth scale and shown in detail, was made to study the top of the tower only. While the mass from which it sprang was necessary for judgement, no time was spent on its detail. Thus purpose influenced presentation of each model.

As to technique, the top one is of wood and chipboard, with buttresses of cast plaster. Otherwise the flock is the outgrowth of a scultpor's technique—which is, model in clay and cast in plaster, plain or steel reinforced, colored as previously discussed. In practice this method is used only for models built for long travel or life, and has no representative in the group. In this case the clay model only was made, saving loss of detail and time by omitting the casting. To compensate for loss of strength in the material, more care was used to keep the clay evenly moist during construction and then in working it thoroughly together. Only short reinforcing was used, that is, wire less than two inches long for specially weak places as chimneys.

To this point the process is simple and any of the models shown (except the topmost) *could* be built by it. If the clay is allowed to dry and additions become necessary, the clay must be protected against expansion. Drying should not occur until all changes are made, but if it does, the simplest way is to model the new form oversize and let it dry or carve dry clay and glue it in place with shellac. Sometimes joints can be closed by a judicious use of heavy color.

Glass is the best surface on which to work moist material. When dry the model will loosen and may then be shellaced or screwed to a wood, marble or other base.

Simple as this process is (before drying has set in), it still contains possibilities of great usefulness to the architectural designer. Any kind of a model is better than none. The picture of the exhibition study shows the condition of one simple model which served as a basis for judging the dimensions for the working drawings though it is of "no" scale "clay." Cost cutting to use stock on hand caused the only variations between model and finished exhibit.

This simple model or that of the country place, illustrated, can give important service, and their value is far beyond their cost. One sees facts in even these simple forms, not readily discernable in drawings. Thought trend is clarified and new forms spring to mind unbidden. We have already mentioned materials, and modeling tools have often been discussed by others to which one may add square and rectangular sticks for punching openings. Orange wood manicure sticks will replace most of the regular modeling tools. In fact few tools are necessary.

Studio production of models has proved satisfactory for all kinds. The architect visits the model the same as any other job under construction, or with the small types shown the model is readily taken to the office for criticism the same as any building

material. Sometimes they are left for a day or so, for special study, though this is seldom necessary as an architect makes decisions quickly.

Complex types will naturally remain the province of the studio, for the problems, at times, are enough to puzzle an engineer or artist, and will until we know all about the rigidity of structures, the control of expansion, and the chemistry of materials, as well as their discriminating use.

However the greatest good will come to architecture through the widespread use of models in simple ways in the hands of all. One may blaze a new trail, but one cannot do the world's work alone—so remember—models are easy in simple plastics. For architecture's sake, take a handful of material and try shaping the next building. An agreeable surprise is certainly in store for those who will.

DOES THE STOCK PLAN SERVE THE OWNER WELL?

By FREDERICK JOHNSTON, Riverside, California, in *Pencil Points*

I HEARTILY indorse the letter of the Secretary of the Architects' League of New Jersey concerning stock plans. Am of the tribe—a small house designer—which suffers difficulties because of the stock plan evil. I have been practicing for several years, receiving commissions for small constructions, while pursuing studies preparatory for larger opportunities. I am not at present certificated in this State, although I expect to gain the appendix 'come winter.'

"Does the stock plan serve the Owner well?—I meet with the stock plan frequently and have little to say in its favor. The best ones, supposedly, are those prepared, or at least sold, under the sponsorship of associations of architects; the worst are probably those prepared by firms whose main business is some child of the profession's, such as blue-printing. Parenthetically, it is a fact that the public is so ill-advised architecturally that people frequently do go to a blue-print shop seeking architectural service. In practical value to the owner I have seen little difference between types of stock plans. Those prepared by architects are frequently developed for prize-winning in some competition, and are devoid of much evidence of earnest study from the angle of the owner's best interest. Economic use of materials and labor is given little consideration; standard milling patterns are ignored; window and door sizes are special; cabinet work is of special design (although not showing any particular or valuable improvement over designs which are stock and generally cheaper); grades of materials are frequently unsuited to the class; such features as service porches, baths, and kitchens are neglected or designed for the use of servants not contemplated by the small house owner; types of finish unsuited to the pocket-book or otherwise impractical are too frequently recommended; the effect of dimensions upon cost is rarely considered, and types of plan, etc., suited only to a portion of the United States are offered for sale in other parts without any attempt to adapt them intelligently to the owner's needs. Too many have been produced with but one thought in mind—a charming design—and availability and practical use of the plan were never considered. The drawings are too frequently made just to impress judges and possible buyers, and to the contractors are vague or incomplete; and the specifications—! I have yet to see one accompanying a stock plan which made much of an attempt to outline methods of labor or use of materials, or which afforded any protection to the owner from an unscrupulous contractor. A fine basis for a contract!

"Again, I have seen 'drawings' given away by material firms with orders for materials, which were so poorly done that I have been called upon to advise the contractors during erection, sometimes actually being paid for services by the company which gave away the plan.

"In all this stock plan idea, service valuable to the owner has never been the major consideration. It has been promulgated for selfish reasons—because it was thought that keener appreciation of good designs would help the business. And yet it has savored of the architect laying off for a moment

his lofty professional dignity to entertain himself with the problem of uplifting the common people, overlooking the idea prevalent outside the profession that anyone so desiring should have a tasteful and well built home, representing full value for every dollar spent, regardless of size. The small house owner's desire for architectural service is still ignored.

"There may be cases where the stock plan has functioned adequately but so far as my experience and observation extend, it has done more harm than good by misleading owners into thinking they can get something for nothing, that the production of a complete set of drawings and specifications for so small a thing as a chicken-coop is a matter of a half-hour's time; and that they can, without any preparation or training assume responsibility for the simplest design, adapt and alter it to individual needs, and competently supervise construction of anything that comes to hand costing less than $35,000.

"When the lumber company he selects will give the owner a 'plan' free with an order for material, why pay even $25.00 for one. And who is telling him the difference between these types of plans and architectural service in fact?

"Moreover the stock plan has never offered any protection to the owner in place of supervision by an architect. In fact I should say from observation that, with a stock plan and specification in hand, the owner had special need of architectural supervision service,—much as a child with a stick of dynamite needs counsel.

"'*Does he get the kind of a house he should have at a fair price?*' I should say not. Allowing for exceptional cases with which I am not familiar, owners always pay more than the current market price for a given dwelling or other structure when attempting to proceed without the advice of an architect. There are so many reasons for this that I can not attempt to set them down. The basis of most of the failure is that no stock plan is satisfactory 'as is,' it must be altered and worked over even to represent a compromise between what the owner would like to have and what he can pay for. The owner will attempt to place fixtures, etc., although really lacking the imagination to visualize them in place or use, with the result that during construction frequent alterations with the attendant extra charges are necessary. (How many times I have received a client with a plan 'all drawn out.' It is exactly what he wants — he worked it out himself. Yet after an hour's consultation we have entirely abandoned 'just what he wants' for something I have shown him to be much better under the circumstances.)

"'*Is the building, when completed, as satisfactory from the standpoint of suitability of the building to its site, proper placing on the plot, plan selection of materials, etc?*' How can a stock plan be fitted to a site unknown? How can the owner know best to adapt it without training or advice? Shall we leave an immense potential field of architectural effort to the carpenter-contractor, and say that he has the training and is competent to advise the owner?

"Who creates the architect; schools—the architect himself? Or is it the people who would pay him money to do something? If asked, the average man will tell you that it is the business of the doctor to keep one well, that of the lawyer to lead one safely through the mazes of legal procedure, that of the architect to advise and otherwise protect the interest of the client in constructing real-estate improvements. It is not a doctor's business to make one beautiful, nor a lawyer's to make one wise, neither does the average man go to an architect for a pretty house only. Average man has little money to pay for beauty alone—he has, more or less of necessity, to take what of it he can get along with the result of practical and economical considerations. Why not recognize this, admit architecture as primarily a business, and give clients what they think they are entitled to—a service which has a dollar value because it produces tangible values for the owner.

"The whole idea is a libel on the profession, anyhow, for if 'plans' for a $10,000 house can be and are produced for $25.00, then the architect who takes a fee of 8% on a $30,000 job is just a grafter. And it is a fact that there is a current notion (and a growing one) that the whole profession *is*

a graft. 'My boy studied it in high school' . . .

"Now as matters proceed hereabouts, a trained man can produce work for a small house owner at a saving more than covering the cost of the service. I think this field an excellent one for young men beginning the practice of architecture. Here the advanced student and beginning practitioner may obtain much valuable experience without prejudice to his clients. His production may be slow and his management of the work awkward, occasionally wiping out profits, but it is the logical field in which to begin. The savings he should make, by personal attention to each case, by intelligent study of appropriate materials and finishes, by earnest attention to a tight specification, and by bringing to bear the value of his presence on the job during supervision, should result in the beginner not only earning his fee but in making a saving for his clients more than covering the cost of his fee, as well as assuring the latter full value for every dollar spent, practical suitability, and individual charm of design.

"These jobs do not take a lot of time when the architect gives some attention to organization of his work; and once having arrived by study and experience at values for material and labor proper for this class of work, he should quickly develop facility in the handling of them, producing distinctive designs properly adjusted to the site, the needs and desires of his clients. Also not to be overlooked is the value of the educational work such a man will carry on when he has the ideals of the profession at heart. He is bound to coordinate and improve the tastes of those with whom he comes in contact, and he should, at the same time, be laying the basis of a future practice of larger opportunity in meeting the first demands of the younger generation responsible for the bulk of smaller constructions, and essentially his own.

"For myself, I have established by experience that at least in this locality a young practitioner can design a $5,000 house, set it forth in complete drawings and specifications, and supervise its erection under a general contract gotten competitively, for a fee of 8% and frequently less; with a saving to the owner plus many benefits, as against what that owner could accomplish if left to 'go it alone' with a stock plan. Some of those benefits are the prosecution of the whole work satisfactorily without loss of the owner's earning time or interference with his time for leisure; individuality of plan, worked out to fit exactly the owner's personality and preferences; particular charm of design arising from such a plan; full development of possibilities inherent in site and environment; and protection for the owner against fraud and malpractice.

"To sum up, Architecture, if a business as well as an art, may with advantage be applied to any sort of construction, profiting the community, the owner, and the architect alike."

NEW DEVELOPMENTS IN HEATING EQUIPMENT*

THE perfection of equipment for heating and air conditioning has progressed along four different lines: the automatic firing of the heater, the development of boilers and other heaters for oil and gas burning and for automatic stoking, the control of temperature, and the humidifying and cleansing of air. The results may be adopted singly or in combination.

A fuel that calls for little attention is gas, either natural or manufactured. Under former conditions its cost was often prohibitive; but although it is still more expensive than other fuels, the development of apparatus and a change in point of view are bringing it into increasing use.

Economy begins with the construction of the house, which should be heat-proofed with insulation in the roof and side walls, metal weather stripping in all outside openings, and tight storm sash on the exposed sides. Through a better understanding of the problem, heaters now extract more heat from a given volume of gas than was formerly possible, and through thermostatic devices no more gas is burned than

*Abstracts of an article in *Building Age* by C. Stanley Taylor, describing major developments in residence heating.

is actually needed to maintain the desired temperature.

According to modern thought, any higher cost is offset by the elimination of labor charges, by the complete absence of dust or grime, by the comfort of a reliable and continuing supply of heat, and through being connected to the gas mains, by the advantage of paying for fuel after it has been used instead of before.

Reliability of oil burners has been greatly increased, and with the development of delivery systems, the maintenance of an adequate supply of oil in the tank has become a function of the oil companies. So great is the demand for oil burners that many makes have been rushed on the market without adequate test, or by companies financially irresponsible. Selection, therefore, should be based on the strength and probable permanence of the manufacturer, proven performance, and servicing facilities.

The latest improvement in coal burning furnaces is a self-feeding magazine boiler, in which fuel is placed in a compartment at the top and passes by gravity to sloping grate bars below, according to the needs of the fire. These hold enough fuel for 24 hours' operation.

Still less labor is required with automatic stokers operating on these same fuels, which can be applied to all heaters of standard design. The fuel is placed in a hopper containing a sufficient supply for 24 hours of operation. A conveyer driven by an electric motor carries the coal to the under side of the grate and forces it up through the center, where it burns from the top downward instead of in the usual manner.

Ashes displaced by the incoming fuel fall to the ash pit, from which they are deposited in a dust-proof receptacle. A blower provides a continuous draft, and regulation of heat is accomplished by the speed of the conveyor and a faster or slower delivery of fuel to the fire. With a stoker of this type the labor of tending a heater is reduced to filling the hopper every 12 to 36 hours and removing the ash buckets once or twice a week.

When oil burners and stokers were introduced they were applied to heaters of existing design, often with unsatisfactory results. All of the large manufacturers now offer heaters especially designed for these firings, with an increase of efficiency and the elimination of much trouble and difficulty. As necessary parts of oil burners and stokers, thermostatic regulators have been developed and improved, and where they were formerly considered to be in the luxury class, they are now recognized as an essential for comfort and economy with heating plants of every description. Properly installed, they will so control the drafts and dampers, or the fuel supply, that heat will be maintained within a degree or two of the desired temperature, and fuel consumption kept at a minimum.

One of the great advances in domestic heating has been due to a recognition of the importance of humidification, which is stated by the medical profession to have a direct bearing on the prevalence of colds and allied diseases.

Under ordinary conditions, the air of a heated house is abnormally dry, and extracts moisture from every possible source. As a result human skin and tissues are so unnaturally dried that they are susceptible to the attacks of germs that would otherwise be resisted, while the drying of woodwork, bookbindings and other articles leads to damage and destruction. A proper moistening of the air thus promotes health and is a preservative.

The correct degree of humidity will require the evaporation of a quantity of water that will depend on the outside temperature, the minimum being one gallon per day per room at 40 degrees. Evaporation must increase with lowered outside temperatures, and will be at least three gallons per day per room during zero weather. So great a quantity of water cannot be conveniently handled by tanks on the radiators, but demands the installation of special apparatus.

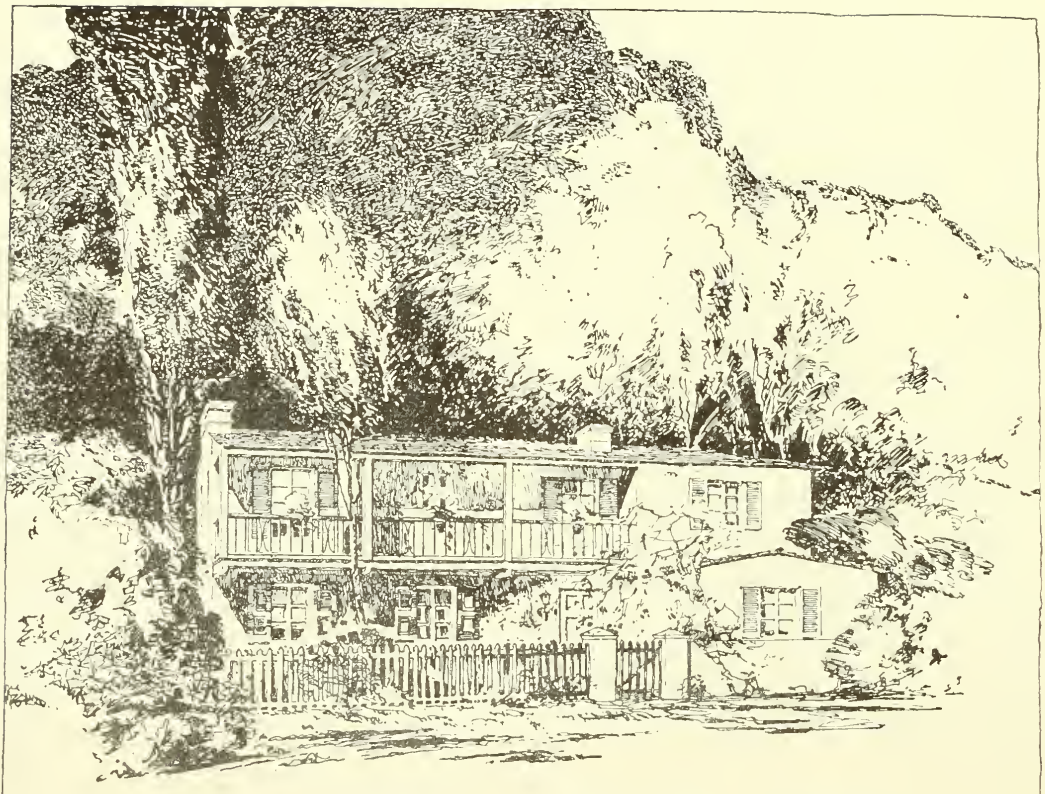
One such device has the appearance of an ordinary radiator enclosure, and is substituted for a steam or hot water radiator at a point from which it can influence the entire house. Its heating section is con-

nected to the boiler and is on the principle of an automobile radiator; air is forced through it by an electric blower designed for quiet operation, and is discharged through curved passages that are moistened by a continuous flow of water from small sprays. Under maximum conditions this machine can evaporate as much as one and one-half gallons of water per hour. The degree of humidity depends on the flow of water, which is controlled by a regulator placed on a wall, while a thermostat controls the delivery of warm air by starting and stopping the motor. A further advantage of this device is that the current of air is washed and cleansed as it passes through the sprays.

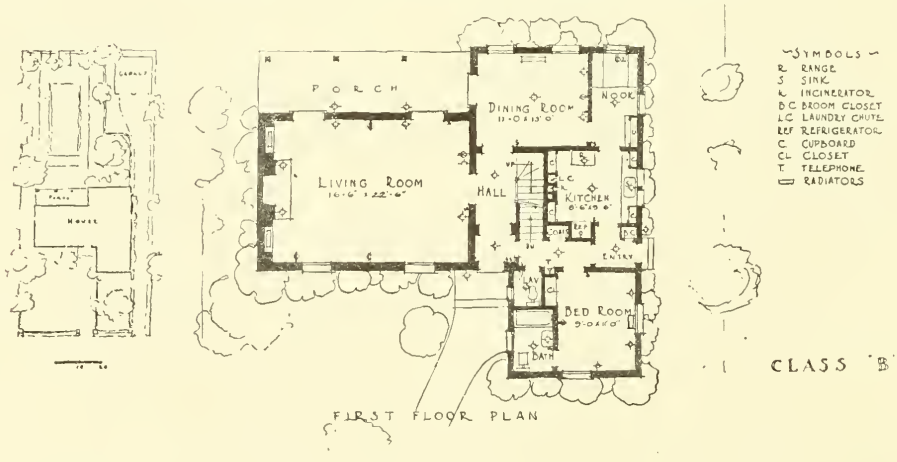
Water pans are usually built into warm air heaters, but in sizes that are now known to be entirely too small; in the new designs the tanks are large and are kept filled by float valves.

This is but one of the many improvements that have brought warm air systems to a high peak of development. The unsatisfactory service of earlier warm air systems was due in part to the feebleness of the rising air currents; today, circulation is forced by an electric fan placed in the cool air intake. In addition to the ducts leading warm air to the registers, there is a second set by which cooled air returns for reheating, and the system thus provides a continuous circulation of air that can be maintained at any desired temperature. Under these conditions the entire volume of air can be humidified by passing it over an evaporating tank built in the heater.

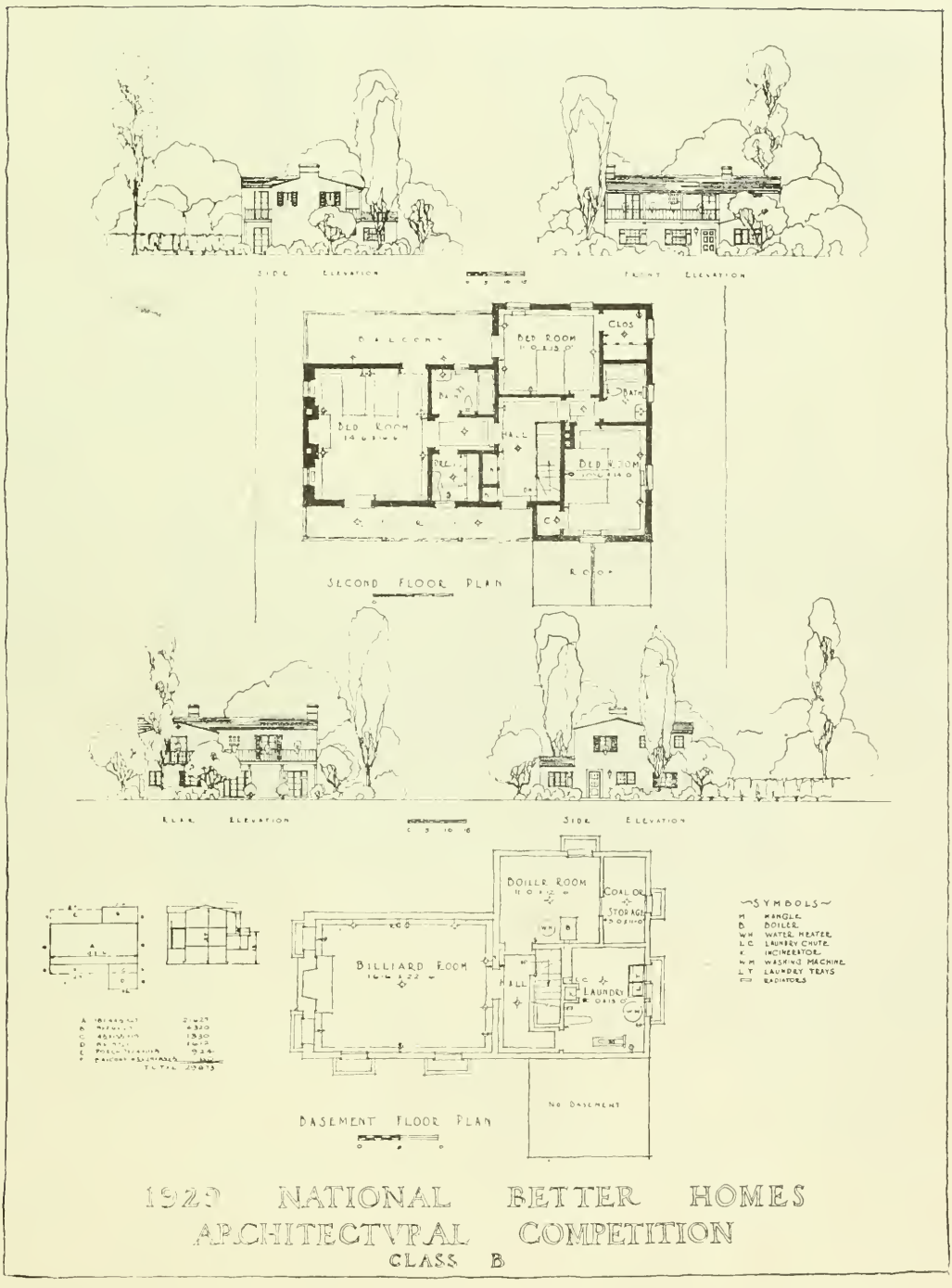
In one highly developed gas-fired system a tank kept filled with water by a float valve is placed above the flame and in the main air passage; steam that is continually being formed humidifies the air and is distributed through the house. The proportions are such that the correct degree of humidification is constantly maintained. This system further provides two filters that cleanse the air of all dust. So complete a machine as this can be useful in the summer as well as in the winter, for the running of the motor and blower will maintain through the house an invigorating circulation of air.



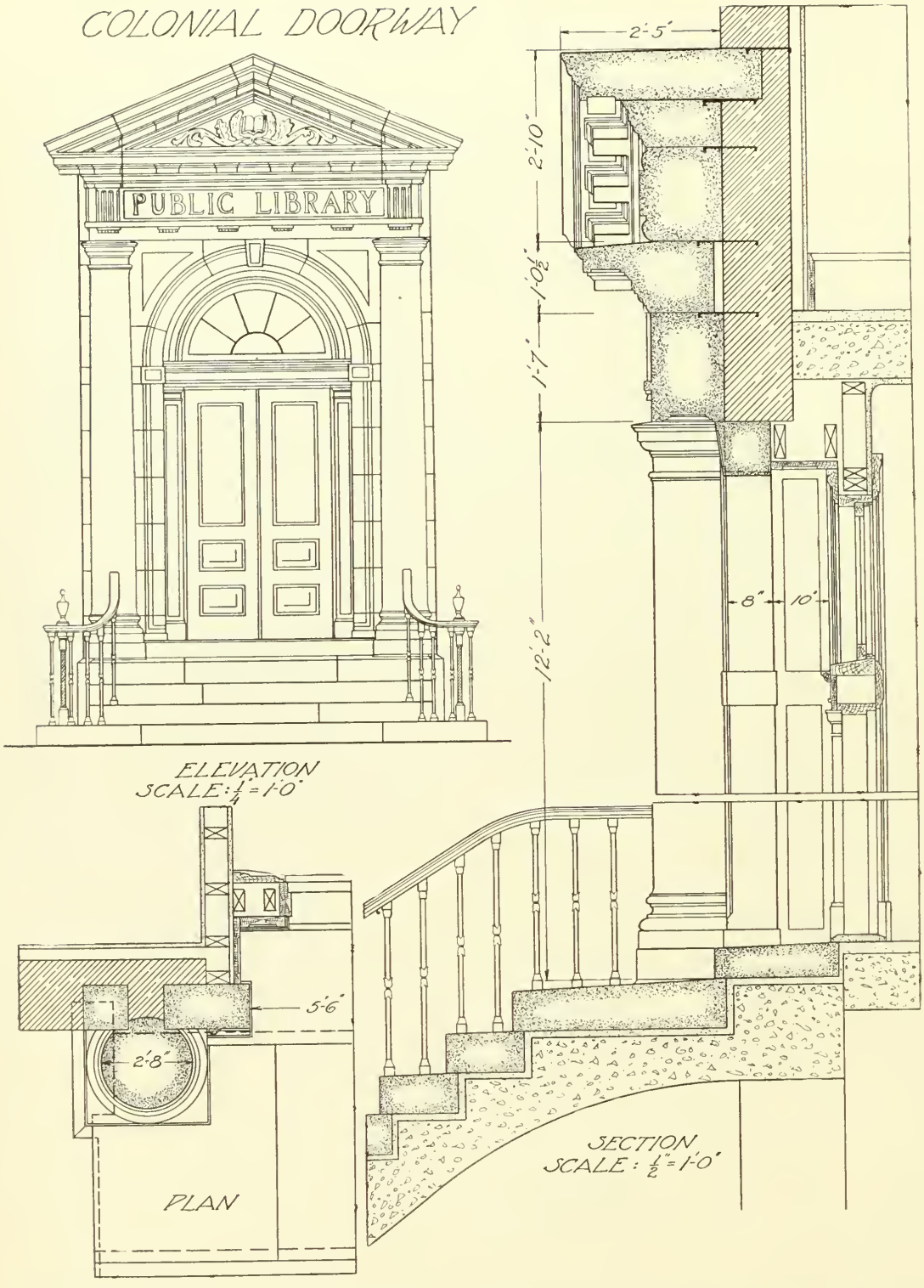
1929 NATIONAL BETTER HOMES ARCHITECTVRAL COMPETITION



H. ROY KELLEY'S GRAND PRIZE HOUSE IN THE



NATIONAL BETTER HOMES CONTEST



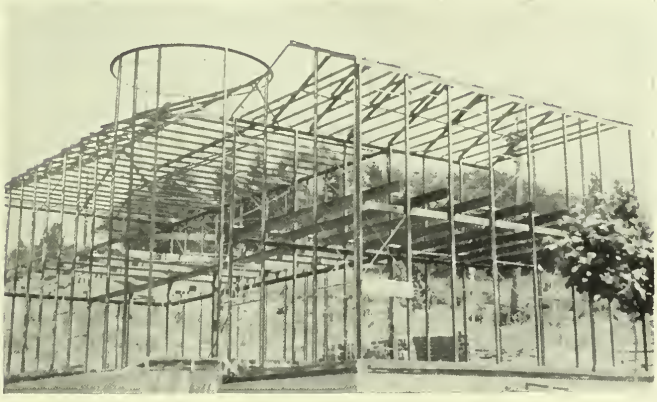
Courtesy Vermont Marble Company

DETAIL OF MARBLE FOR COLONIAL DOORWAY TO A PUBLIC LIBRARY BUILDING

ENGINEERING

and

CONSTRUCTION



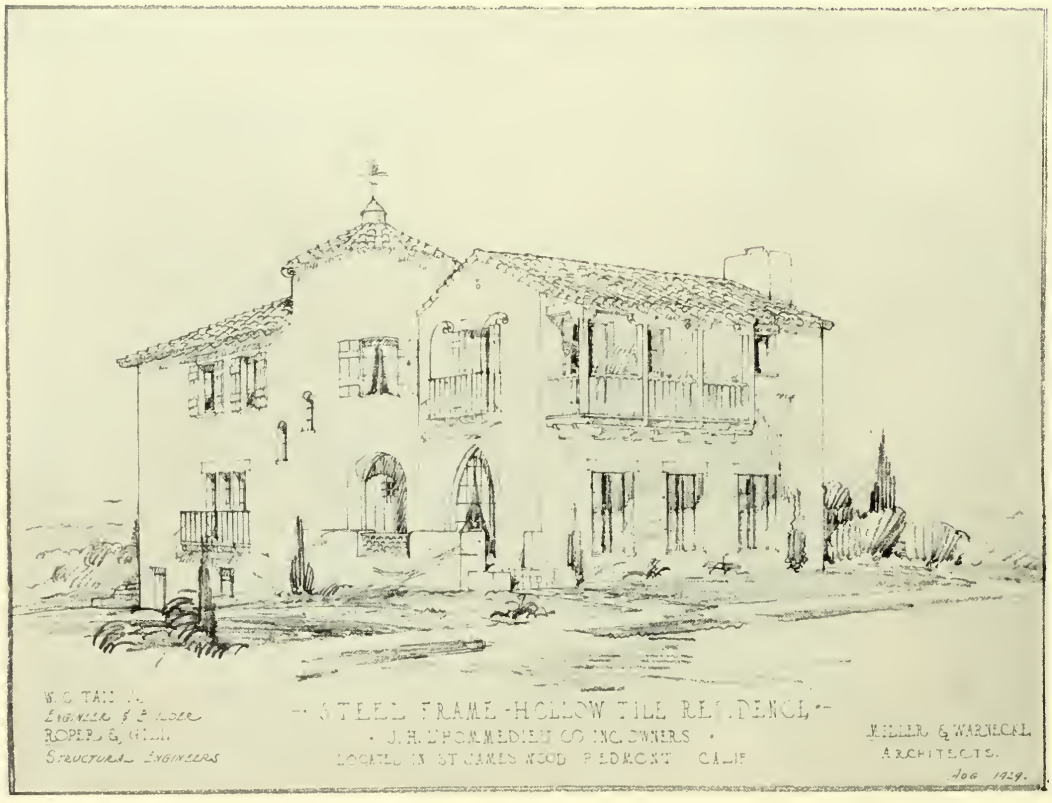
STEEL FRAME FOR RESIDENCE IN PIEDMONT, CALIFORNIA
Roper and Gill, Structural Engineers

Featuring the

First Steel Frame House in Northern California

A STEEL FRAME HOLLOW TILE HOUSE

By: G.F. Gill, CE



IT has long been a problem to combat successfully nature's destructive agents. Fire, earthquakes and such insects as the termite concern us most. Catastrophies like the Berkeley and Mill Valley fires and the Santa Barbara earthquake may be avoided if the most improved engineering methods are employed in the design and erection of our buildings.

To combat these three menaces and present a dwelling that will have beauty as well as durability, a steel frame-hollow tile residence was designed by W. C. Tait, Jr., and the home is now being built under his supervision in St. James Wood, Piedmont, California, for J. H. L'Hommedieu Company, Inc. Miller & Warnecke, architects, of Oakland, have assisted in beautifying the house in color and design, while the structural steel details have been handled by Messrs. Roper & Gill.

The steel frame was fabricated and erected by the Judson Pacific Company.

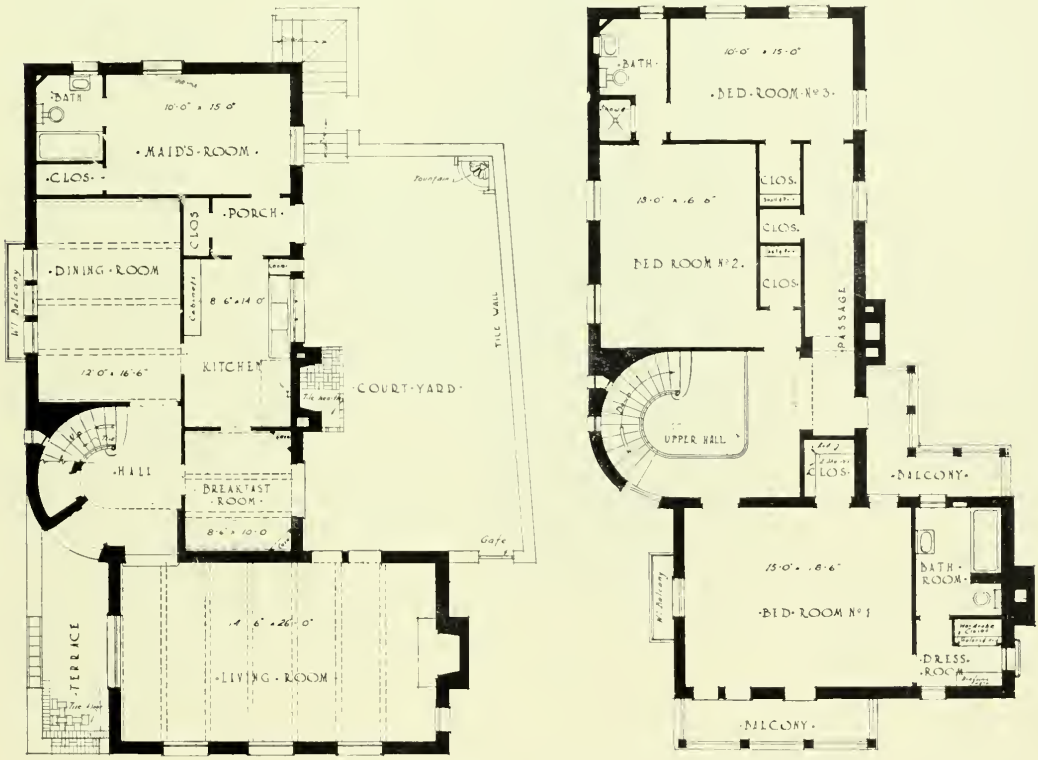
Note—Mr. Gill is a member of the firm of Roper & Gill, structural engineers, Oakland California.

Exposed tile is an important feature of the construction and excellent effects are being obtained. Dickey Mastertile is being used throughout.

The wall construction consists essentially of light steel studs between two 4 inch tile walls. The bracing of the studs is accomplished by half inch rods diagonally and three-quarter inch pipe separators horizontally between floors. The air space provides insulation against dampness, heat and cold. The two four-inch tile walls are tied together in alternate courses by bonding irons; the outside four inch tile wall is to be white washed and the inside tile wall is of buff color natural tile in the living room and hall and decorated with plastic paint in the remainder of the house. All ceilings are metal lath and plaster. Incidentally, this is the only place in the house where plaster is used. The first floor construction consists of a two and a half inch concrete slab on steel-tex over junior beams which are structural steel shapes adaptable to light floor construction and wood flooring on sleepers. The rafters are all steel. Steel sash are used throughout.

The roof will be of terra cotta tile laid on trussed steel rafters of standard structural steel shapes. All plumbing and wiring is easily taken care of between the steel studding of the frame and between the tile. This air space between the tile walls forms excellent insulation against dampness and cold as well as heat. A sanitary feature of this house of special merit is its immunity against vermin and injurious insects which today are causing injury to homes in some localities.

The garage in the basement will provide for two cars and will be fireproof. Garage doors will be electrically controlled. Heat for this residence will be provided by an



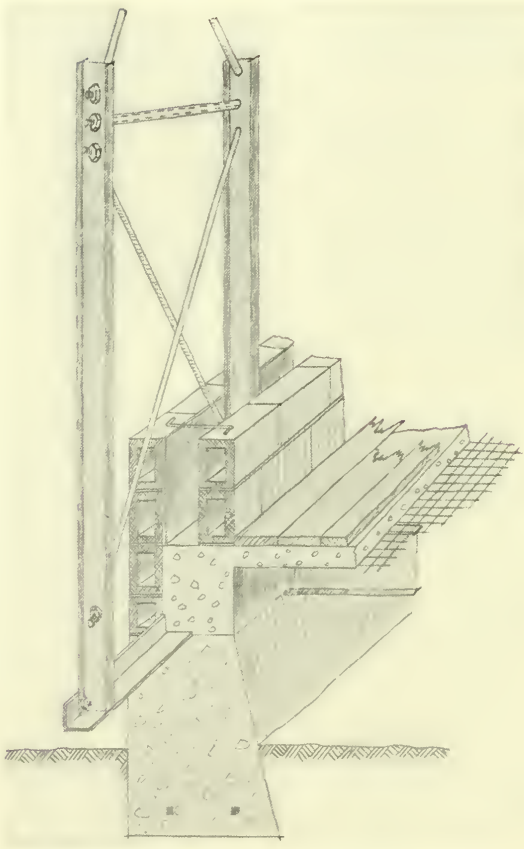
PLANS, STEEL FRAME, HOLLOW TILE RESIDENCE, PIEDMONT
Miller & Warnecke, Architects

oil burning hot air furnace.

The contract price of the house exclusive of lot is 48 cents per cubic foot. The weight of the steel frame is approximately twelve and one-half tons and its cost is less than ten per cent of the cost of the house. The total original cost will not exceed ten per cent more than a wood frame house with plaster inside and out. Small maintenance cost, low insurance and negligible depreciation of the steel frame hollow tile house are some of the finer features of this type of construction.

* * *

While on the subject of steel frame construction of residences it is interesting to note the conclusions of the Connecticut Architectural League, which recently sponsored a competition for a steel frame house.



SECTIONAL VIEW OF WALL CONSTRUCTION, STEEL FRAME AND HOLLOW TILE RESIDENCE, PIEDMONT

Roper & Gill, Structural Engineers

L. R. Hammond, chairman of the committee having charge of the competition, in filing his report, stated: "Many interesting things were revealed to the committee through this competition. One is a house of steel frame construction of Spanish design which was being built by W. C. Tait, Jr., at Oakland, California, under contract for 48 cents a cubic foot, as against an average price of forty-five cents for wood frame construction in Connecticut, and fifty-five to sixty cents for brick construction.

"A second is what appears to be a new method of steel frame design which would greatly simplify work of erection, and with this an alleged new method of sheathing, having what seems to be many distinct and important advantages over methods and materials now in use.

"Information obtained through this competition appears to indicate that the steel frame is the method of house construction which will, if properly developed, most nearly permit of 75 per cent of the work being done in the factory on a basis of 312 days work for 312 days pay, as against 312 days pay for 200 days work, when, as at present, 75 per cent of construction is done in the field and the rest in the factory.

"And further, the steel frame method provides opportunity for a quality of precision and coordination of all service installations, water, heat, electric power and light, ventilation, etc., with a corresponding great reduction in cost, which seems practically impossible to older methods of house construction.

"The foregoing paragraph is not meant to appear to favor the making of one or more standardized types in the factory to be shipped knocked down for erecting on the field. What appears to be required is merely easily assembled standard units permitting house designers the same, or even greater freedom in designing, than may be now had in the use of wood frame or masonry construction. It is only by competition among designers that we may hope to see the art thrive."

MODERNIZING THE HOME

HOW great numbers of Americans may modernize their homes in 1930 to make them accord with the national ideal of beautiful homes expressed by Former President Coolidge in his speech at Mountain Lake, Florida, is indicated by Gerald Lynton Kaufman of the New York Chapter of the American Institute of Architects.

Characterizing the speech as a great stimulus from the head of the nation, to the movement for bringing harmony of design and environment into every residence community, Mr. Kaufman recalls the President's remarks:

"Some of the most appealing and fascinating homes in the world are small. They may represent but little outlay and be the abode of people of moderate means, but if there dwells fine character within it will shine forth and give to all the surroundings a touch of peace and loveliness which the most spacious palace cannot surpass.

"While few have the means to present such a gorgeous display as will here strike the eye and the ear, it is well to remember that beauty is not dependent upon large areas or great heights."

Modernizing must mean far more than simply replacing the obsolete with the up-to-date; it must mean far more than an increase in comfort and convenience; and it must transcend the mere substitution of the beautiful for the ugly. The economics of modernizing concerns the resultant value of the finished home and must stand comparison with new construction involving a similar investment.

"But how can the two be compared?" asks Mr. Kaufman. "How can a homeowner weigh in the balance a contemplated expenditure of $5,000 for modernization, as against $25,000 for a new home, and expect to get an intelligent reading of the scales? The answer is in most cases, that he cannot; but here is where the architect may step in to adjust the balance with the weight of his own experience.

"The architect is the only disinterested expert who can advise whether or not modernization is economically practicable in each particular instance. Mr. John Smith's house, built in 1910 and worth $15,000 today, may be made to have a remodernization without an appreciation of its re-sale value to the $18,000 class.

"Who is going to tell Mr. Smith what to do, and who is going to advise Mr. Jones what to do? The manufacturers and the builders are both honest and willing advisers; the products advertised in the newspapers and magazines may be just the very things wanted, and the best of their respective kinds; the builders may give the most reasonable estimates. Yet who except the architect may stand off beside the owner and view the house from a properly disinterested perspective, to advise modernization for the Smith house and something else for his neighbor?

"Mr. Jones is not to be dismissed by the 'no' of economics; neither the manufacturers nor the builders are going to 'lose' Mr. Jones simply because he had the foresight to seek professional advice. His old house is no longer satisfactory; he considered modernization at first, but the specialist that was called in prescribed a change of climate instead of an operation.

"Jones sits down with the architect and looks over the economics of his own case. He finds out that he can take advantage of the $15,000 market value, sell his home, and add the $5,000 allotted for modernization to make up a $20,000 budget for a new building. He finds out further that by securing the right kind of property and by having complete drawings and specifications prepared, he can build a new home with a $25,000 re-sale value and 'keep up with the Smiths.'

"It seems a little more trouble and a little more loss of time in Jones' case, but it means also a sound investment with a net difference in value of $7,000 over the idea of modernizing. The material dealers and the manufacturers will have sold him three times the amount of home-building merchandise first contemplated, the builder

will have signed a contract three times as large, with corresponding profits, and Mr. Jones himself will be $7,000 to the good in the final value of his home.

"Meanwhile Smith has not been faring at all badly either. For modernization has been prescribed for his case and he is taking advantage of the best that is offered for the success of the operation. He has told his architect that he wishes to invest $5,000 in his home as it now stands, and the architect has assured him of the economic soundness of the idea. Only this is not the full extent of the professional service.

"It must be decided in what way the $5,000 can be spent to best advantage. Shall it be for a new roof, colored tile bathrooms, hardwood floors, and new shingles on the exterior? Or should a smaller sum be spent outside the house simply for restaining the roof and repainting the shingles, with the greater part of the investment devoted to brass plumbing, a new heating system, insulation of the walls, and plastering on wire lath?

"Smith's house may need one kind of modernizing and the house next to Smith's an entirely different kind. The architect helps him come to a decision, but in doing so discovers an entirely new problem confronting his client.

"Smith has now developed an economic complication; the pressure of enthusiasm and of a rising stock-market has gone to his head, and he wishes to put $10,000 into modernization. His architect, however, realizing the superlative value of good-will over an increased commission, shows him that the additional expenditure, though it may add to the appearance and comfort of his home, will not raise the re-sale value.

"Economically speaking, $5,000 worth of modernization will raise the market value to $25,000 but $10,000 worth of modernization will raise it only to $26,000--in Smith's case. Here is where the term modernization supercedes the old idea of 'remodeling'—for in 1919 Smith would have known no way of setting a limit to his investment.

"Plans and specifications are drawn up, estimates are secured from several local builders, and finally a contract is signed. In due time the remodeling has been finished and Smith can move back to his $25,000 home."

The message of modernizing is the message of today, ever before the eyes of homeowners. But it should be supplemented by the qualifying message of caution, which is the word of modern economics. And who is better qualified to offer these words of caution than the architect?

A PLEA FOR GREATER PLAY GROUNDS

A nation-wide mosaic of "master city, county and regional plans," to provide for larger park and recreation areas, parkways, traffic and transportation systems, group buildings and zoning regulations, is urged by Charles H. Cheney of Los Angeles, chairman of the City and Regional Planning Committee of the American Institute of Architects.

The major objective of such plans is more breathing space in American cities, more "impressive scenery for nerve-racked, city-strained men, women and children."

California, Mr. Cheney points out, has already passed a Planning Act, which went into effect on August 1, and which makes mandatory upon each city, county and regional planning commission to make and adopt a master plan, including these various features.

"This is a distinct step forward in the progress of the country," he asserts. "It is even more forward looking than the model standard planning enabling act recommended by the Hoover Committee of the U. S. Department of Commerce in 1927, which largely inspired California's less definite Planning Act of 1927.

"Most students of social problems are familiar with a good many of the factors which must be taken into account in preparing any usable plan of city or regional development.

"We know that it is not practical to locate a school building, or the local playground for the children who are to use the school, without taking careful account of

the centers of present and future child population.

"These in turn are dependent upon the previous manner of growth of the neighborhood and its zone ordinance, which determines whether it shall continue as a residential district. Both schools and playgrounds are safer, cleaner, quieter and more attractive off of major highways.

"In a similar way all the other parts of the city's master plan really have important bearing upon this choice of location. The same is true in the larger units of the county or region.

"Now we have county zoning coming into more general use, with zoning regulations for areas desiring protection, both residential and industrial. This helps to effect sounder planning and community building.

"General principles have been developed regarding the kinds of recreation areas, school playgrounds, public playgrounds and parks, which are needed and should be included in making city, county and regional plans.

"The efficiency of a system of parks is a complicated and difficult matter to estimate, for it cannot be figured in dollars and cents like a real estate deal or any commercial project.

"At intervals about the city there should be outdoor beauty spots for the restful recreation of both old and young. Here should be found the quiet walks and the refreshing beauty of trees, shrubs, flowers and lawns, what has been called that real park quality which benefits the city dweller from youth to old age.

"In each distinct part of the city there should be a neighborhood park of from fifteen to fifty acres, forming a general adult recreation center.

"In addition to these local recreational requirements, there should be areas of great natural scenic beauty, worthy of permanent perpetuation and care, which may well be a few acres up to several hundred or even thousand acres in extent.

"Magnificent street trees are a most noticeable and refreshing asset in any community. The most forward looking have early been committed to an extensive tree planting program. This naturally requires appointment of a tree warden, and continuous appropriations for the care of street trees.

"High class residence cities, proud of their appearance and attracting large numbers of visitors, find it profitable to create show drives and parkways, 150 to 300 feet wide and well lined with trees and flowering shrubs, connecting up the various parks and principal points of interest around the city. Chicago and Kansas City are famous for such parkways.

"A parkway is a route limited to passenger vehicles, and made exceptionally agreeable as a route of pleasure travel by every possible means, but especially by the feeling of openness that comes only with plenty of width and by an ample enframement of trees, shrubs, and other plantations in the parallel wide sidewalk areas.

"There is justification for providing such a parkway or boulevard as one of the main thoroughfares of a city wherever conditions are such that commercial traffic can be taken care of in other or nearby routes, and that the amount and kind of passenger traffic over the proposed route would make the extra public enjoyment afforded by the parkway or boulevard worth its cost.

"A parkway or boulevard may be used mainly by people going to and from business and yet give them a great deal of incidental recreation and pleasure.

"Such parkway thoroughfares, as far as possible, should lead past the principal parks and scenic views of the city, showing them to the best advantage of local people.

"Width in parkways is necessary to secure ample permanent spaces for planting, which is what makes a boulevard refreshing and useful. A width of 200 to 220 feet would generally be a minimum, but more than this is usually desirable.

"In the case of all parkways, houses should be set back fifty to one hundred feet from the sidewalk, and suitable legal methods of securing this should be adopted at the time of planning.

"Acquirement of all kinds of playgrounds, parks and parkways may come to the public by gift, by lease with option to purchase, or by outright purchase.

[Please turn to Page 109]

The ARCHITECT'S VIEWPOINT

- *More Study to Roof Lines Needed*
- *Proper Charge for Services Rendered*
- *Public More Appreciative of Architect's Mission*

CONTRIBUTING EDITORS
WILLIAM C. HAYS . . *San Francisco*
CARLETON M. WINSLOW . *Los Angeles*
HAROLD W. DOTY . . . *Portland, Ore.*
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ROOFS are the most ancient detail of man's architectural endeavors of which we have any knowledge, dating back to the remotest of prehistoric times. Roofs were man's first practical concern. He took advantage of those nature had provided by caves and dens, and later man dug holes for himself that roofs should be provided. As he improved in building technique, man saw to it that his roofs not only were skillfully constructed to serve their practical purposes, but also to be things of beauty especially when visible from the surrounding terrain. In hot countries their existence as terraces became places of romance, as Guy de Maupassant has so gracefully related, and they had singular beauty when viewed from above, and mystery when seen from below.

It was left for the last century to prostitute them to uncouth purposes and appearance until, on business structures, their clutter of tanks, pent houses, staggering telephone braces and finally illuminated signs, were enough to make the angels weep, and weep they probably did and do, if, as we surmise, they had to view them from above.

During this last generation, architects generally have done what they could to mitigate this blight and no building project of the present day would be acceptable without careful consideration being given to housing roof impedimenta with care and artistic skill. Investors in building construction are willing to pay the cost of visible roofs which conceal the mechanical needs of the habitable building below, and such roof designs have been the salvation of the skyline of the modern city.

How much the design of roofs will be affected by the development of passenger flying remains to be seen. The roofs that are now visible from below will be beautiful when viewed from above. Until the problem of landing air craft on very limited areas has been solved, flat surfaces for such purposes will not be a serious element in roof problems. The sign man will probably be the first to take advantage of the visibility of roofs from above, and unless that phase of the problem is given more serious attention than that of illuminated signs as now seen from below, another irritation will be added to our already distracted and hectic existence.

Turning to the lighter side of the subject of roofs, the medieval builders carried far the science and theory of roof design and construction, enveloping the elements in quaint phraseology. How many architects of today know offhand about such terms as straining piece, common rafter, pole-plate, puncheon, camber-beam, joggle and cogging?

* * *

A VERY recent ruling by Judge Leon Y. Yankwich in the case of a suit by an architectural associateship against the Calvary Presbyterian Church is of serious interest to the profession.

The architects, Messrs. Norman F. Marsh and De Wight I. Kindig, were sueing for payment based on drawings prepared for church construction which were not used; the work being done over again for a building to be considerably less in cost.

The decision, favoring the defendants, stated that architects must base their percentage of pay on the building erected and not the building originally planned. Judge

Yankwich, who has a notable reputation for clear thinking and fair mindedness, according to press reports, ruled that if a certain structure is planned and later a cheaper one is erected, the architects must use the building actually constructed on which to base their compensation.

The proceedings of the trial and the merits of the case are not at hand and the writer has no mind to analyze this particular decision but as a precedent it is generally liable to lead to considerable embarrassment on the part of architects when charging for their services. The conscientious practitioner does not desire compensation over and above what he is entitled to charge for services performed which are not of ultimate value to his client. It is often difficult to arrive at the approximate cost of work until detailed and costly drawings have been prepared, and the client's knowledge of the cost of construction and especially that of the preparation of drawings, is frequently exceedingly vague. This applies particularly to church and residential work. There are usually three elements in this problem, the amount of money to be expended, the quantity of work to be constructed, and the quality. The architect must have control of at least one of these elements to have the results turn out satisfactory all around. If he relinquishes all of them to the average owner, he is liable in the end to be, as contemporary slang has it, "sunk."

* * *

ONE wonders sometimes why anyone in his senses wants to be an architect anyway. He enters a career of life long study, hard work and longer hours than any medical practitioner would think of putting up with. But the urge apparently comes to enough men to keep the profession going and in the end the satisfaction of seeing the result of mental stress envolved into concrete form gives comfort and pride. Homer's use of the work "architectos," derived from "archestectos," the chief fabricator, has, in the mind of the frivolous, a double meaning, especially when related to preliminary estimates. Aside from this, what does the public in general think of architects and are people learning to appreciate good architecture?

In any structure of even modest pretentions there is architectural work to be performed. Somebody must do it and the client must pay for it. If the structure is done by the speculator-builder or the carpenter-architect, there is an architectural cost which, in the end, is paid for by the purchaser or client, even though that cost is merged into other costs and the client is told that he is "saved the expense of an architect." The intelligent public knows this and is influenced accordingly. The wise client would not think of having the architectural work done thus anonymously. He knows that he needs an architect of professional standing to guard his interests and see that he gets what he is paying for. Usually he is willing to pay an architect instead of a carpenter for this service.

On the whole the public in general has a growing appreciation of the work and activities of the professional architect. This is shown to some extent by the increasing number of laymen who subscribe to the architectural journals.

Few laymen attain the heights of architectural wisdom and understanding of such men as Dr. George Ellery Hale, who contributed a beautiful essay to the Bertram Grosvenor Goodhue Book, published by the American Institute of Architects, but sound appreciation for good architecture is certainly increasing. For proof of this one has only to look about and observe the constantly improving quality of new architectural work. Without the lay clients' co-operation, this improvement would be impossible.

CARLETON MONROE WINSLOW, A. I. A., *Los Angeles, California.*

EDITORIAL CHAT

A CHICAGO architect, whose business in the course of a year runs into the millions, wrote me the other day to inquire about the possibilities of opening a Pacific Coast office, San Francisco or Los Angeles preferred. He went on to relate how much Western material the Eastern architectural magazines have been printing of late and he wondered if business was so much better here than in the East. We wrote him that without wishing to discourage his ambitions to "branch out" we could see little prospect for his success in California unless he had something already lined up to keep him busy at the outset. There are quite enough architects on the Pacific Coast now and present building conditions certainly do not warrant adding to this number. No, San Francisco, Los Angeles, Portland and Seattle do not need any more architects.

Just to impress the reader how the Eastern periodicals are featuring Pacific Coast architecture of late, let us quote a few headings from the September issue of the *American Architect* (practically all of this material, by the way, has appeared in THE ARCHITECT AND ENGINEER from time to time) House in Portland, Oregon, by A. Glenn Stanton; Home in Broadmoor by Arthur Loveless; Unitarian Church, Portland; House of J. R. Bowles, Portland; House at Beverly Hills, California; Guaranty Building and Loan Association Building, Los Angeles; Dufwin Theater, Oakland; Income Securities Building, Oakland; Las Encinas Sanitarium, Pasadena, etc., etc.

And for text matter we pick up *Pencil Points*, to find lengthy articles by California architects. Ernest Irving Freese of Los Angeles offers his ideas on the method of "Perspective Projection"; Nat Piper, President of the Long Beach Architects' League, writes about "The California Missions" and Charles Kyson of Hollywood discusses "The Architect's Profit and Production Cost."

CHARACTERIZING the development of Washington as a "clinic in architecture" where results of importance to the entire nation are being worked out, the American Institute of Architects has launched a campaign for the immediate adoption of similarly coordinated city and regional plans by every community throughout the country.

To bring before other cities the object lesson of the work accomplished through systematic layout and building in the District of Columbia, the Institute has duplicated a film made under the direction of Secretary of the Treasury Andrew W. Mellon, and through its Chapters is exhibiting it widely to groups of architects, city planners, and civic bodies. (Mr. Cheney will show this film at the Architects' Convention in Los Angeles this month.)

"Not a casual, but an amazing progress has been made in the development of the Federal City, Horace W. Peaslee, chairman of the Institute Committee on the National Capital declared in a report made public by C. Herrick Hammond of Chicago, president of the Institute.

"The extent of this progress can best be realized by comparing present conditions with conditions five years ago. In 1923 the development of Washington was handicapped not only by lack of funds, but by lack of co-ordinated, comprehensive planning. Not only was there lack of co-operation in planning, but there was a large factor of planning at cross purposes.

"At the 1923 convention, the Institute took the position that if a definite program of development were established this confusion would be eliminated, and it appointed a special committee to develop this line of procedure.

"Results have amply justified the theory. In five years almost unbelievable accomplishments have been made. The planning commission has evolved comprehensive plans for the District of Columbia and for the entire region. It has the sympathetic and active support of a corresponding Maryland Planning Commission. It has received the beginnings of support from a similar Virginia planning commission.

"The results obtained have been due in

large measure to sympathetic contact developed between the Planning Commission and the legislative bodies. In all, more than $116,000,000 have been authorized for federal buildings and improvements in the capital.

"From a standstill, the public buildings project has jumped to a $200,000,000 undertaking for the entire triangle between Pennsylvania Avenue, B Street and Fifteenth. Of this total, $25,000,000 have been authorized for the purchase of the land, and $50,000,000 toward the building development.

"An appropriation of $5,000,000 has been made for the development of the area between the Union Station and the Capitol, including new highway connections and carrying with it authority for the development of the Mall.

"A $25,000,000 project has been authorized for a new municipal center on the north side of Pennsylvania Avenue. Another $14,000,000 has been authorized for the Arlington Memorial Bridge and its connections, which include the development of B Street as a memorial highway to the foot of Capitol Hill; and $450,000,000 have been appropriated for the development of the Mount Vernon Boulevard.

"Aside from any question of appropriations, the Government is giving full consideration to the importance of having its work carried out by the ablest men it can obtain."

In this connection should be noted a changed attitude on the part of the profession. We no longer find a scramble for government work. We find instead the ablest men willing to give hugely of their time and ability without compensation.

Architects in every part of the United States should become more intimately acquainted with the momentous work of development of their Capitol, and communities should model their efforts on the steps which have been taken toward creating a city expressing the highest aspirations of the American nation.

* * *

CAN you imagine several hundred mechanics working in a machine shop or foundry clad in white trousers? What a sorry spectacle those white pants must present at the close of a day's work! But if that is your conclusion, dear reader, you are all wrong. Read this from a pamphlet which the American Rolling Mill Company has broadcast to the world:

"Workmen garbed in white trousers are more efficient and more careful than men attired in overalls and customary laborers' clothes.

"Since that first squad dared to institute a new style in steel plant wearing apparel, the number of pairs of white duck pants have increased until about 400 men of the plant personnel are now going about their work in spotless white—and liking it.

"The idea has a psychological trend, and it will be news to many today to learn that a steel man doesn't think that psychology is some foreign language. The idea, in fact, is this: A man who is careless or slovenly about his wearing apparel will likely be slovenly about his work. Dress him up in neat clothing and you make him into a more careful worker. Likewise you find a man who is particular about his clothing and he will be particular about his work."

That's the idea of the white pants. Put white ducks on the average man and you change his character and his habits. The old saying that 'clothes make the man,' is being worked out on a large scale at the Middletown, Ohio, factory.—F. W. J.

A PLEA FOR GREATER PLAY GROUNDS

[Concluded from Page 105]

"To be a good neighbor each school and playground should be thickly planted with a screen of shrubs and trees, twenty to forty feet wide, outside the playground fence.

"It is a well established fact that residential property facing a public park gains in a few years to twenty per cent more value than property not near a park. On the other hand property facing ill-kept, unfenced and unplanted school buildings and grounds is often depreciated in value.

"It is the function of the Planning Commission to work out a common plan for all these developments, and then to guide that plan into permanent execution."

WITH *the* ARCHITECTS

OCTOBER EXHIBITIONS

During the first two weeks of October the one-man display in the exhibition rooms of the Architects Building, Fifth and Figueroa streets, Los Angeles, consisted of the work of Julian E. Garnsey, mural painter. Sketches in color for the painted decoration of walls and ceilings and photographs of executed work were shown.

Mr. Garnsey is in the second generation of decorative painters in his family. He trained in architectural design at Harvard and in painting in Paris as the pupil of Jean-Paul Laurens and Richard Miller. He was president of the Art Students League of New York in 1915-1917.

Since coming to California his commissions have included the decoration of the Automobile Club of Southern California, the Hotel Del Monte, the Central Library of Los Angeles, the Bank of Hawaii, Honolulu, and the new auditorium and library of the University of California at Los Angeles.

NEWSOM AND NEWSOM BUSY

New work in the office of Messrs. Newsom and Newsom, Federal Realty Building, Oakland, includes additional buildings at the Harold Mack ranch, near Del Monte. The main house has already been built and with the completion of the several structures being planned, the estate will be a show place in Monterey County. Alterations and additions are planned by the same architects to the A. G. Spilker ranch at Danville, Contra Costa County. The firm has completed drawings for an eight room stucco house in Piedmont for G. Henshaw.

$250,000 SANTA MONICA HOME

Morgan, Walls and Clements, Van Nuys building, Los Angeles, have completed plans for a large residence to be built near Santa Monica for Mrs. May Rundge at an estimated cost of $250,000. There will be forty rooms, fourteen baths, servants' quarters, etc.

ANNUAL ELECTION

The annual election of officers of the Architects' League of Hollywood will be held the second Wednesday in October. A committee composed of John Roth, chairman, V. B. McClurg and Wm. Hodges was appointed at the last meeting to make nominations.

HAS MUCH RESIDENCE WORK

The office of Edwin L. Snyder, 2101 Addison street, Berkeley, is busy on several important commissions for residence work, including a stucco house to be built on Scenic Road, Berkeley, for Dr. John A. Grennan, Jr.; a Spanish house in Claremont Pines for R. W. Croninger; an English residence on San Luis Road, Berkeley, for Dr. M. H. Grove and a house in Piedmont for S. H. Kelley. Mr. Snyder's office is also working on preliminaries for a four story reinforced concrete apartment house to be constructed on Hilgard avenue, Berkeley.

W. H. WEEKS' OFFICE ACTIVE

New work in the office of William H. Weeks, San Francisco architect, includes a $60,000 store and apartment building in Santa Cruz for A. L. Goldstein and associates; a two-story store and apartment building in Watsonville for A. B. Beck; a $50,000 unit to the Hollister high school; a new gymnasium for the Watsonville high school district and a commission to design the new units to the Alhambra high school in Martinez, Contra Costa county.

BERKELEY'S NEW PUBLIC LIBRARY

James W. Placheck is designing the new Berkeley public library in the modernistic style. His preliminary plans have been approved and they show a structure that promises to be unique and radically different from any public building in the university city. A portfolio of sketches, showing how Mr. Placheck developed the problem, will be featured in THE ARCHITECT AND ENGINEER for November. The library trustees have agreed to spend $250,000 on the building, not including furnishings and equipment.

SAN JOSE APARTMENTS

Messrs. Binder and Curtis of San Jose have completed plans for a two story frame and stucco apartment building for Charles Rosenham. There will be ten apartments of two and three rooms each. The location is 9th street, near San Carlos, San Jose.

MEYER TO BE PRESIDENT

Frederick H. Meyer, who will shortly return from a three months trip abroad with Mrs. Meyer, is to be the new president of San Francisco Chapter A. I. A. The election will take place at the next regular meeting of the Chapter.

SAN FRANCISCO SCHOOL WORK

Messrs. Miller and Pflueger, of San Francisco, are busy on plans for a $900,000 school building to be known as the George Washington High school and which will occupy a considerable portion of the block bounded by Geary, 30th and 32nd avenues, San Francisco. Gymnasium and shop buildings are planned for the Francisco Junior High school, S. Heiman, architect. Bakewell and Weihe are architects for new bleachers and an athletic field at the Balboa school and Shea and Shea are architects for a junior high school in Westwood Park, estimated to cost $600,000.

GAS COMPANY TO BUILD

The Pacific Gas & Electric Company will erect a large Class B garage and gas meter repair building on the block bounded by Folsom, Shotwell, 18th and 19th streets, San Francisco. The plans have been completed by the Architectural Department of the company of which Ivan Frickstad is chief draftsman. Approximately $500,000 will be expended on the improvements.

MEDICO DENTAL BUILDING

Earl W. Morrison has prepared plans for a Medical and Dental building, which is to be erected on the southwest corner of Commercial and Magnolia streets, Bellingham.

The brick building will cover an area 100x110 feet, the main portion being 60x110 feet. There will be stores on the ground floor. The estimated cost is $600,000.

MEDICAL ARTS TOWER

John Graham, architect, of Seattle, with Heath, Gove & Bell, of Tacoma, as associates, has been commissioned to draw plans for the Rhodes Medical Arts Tower, twenty stories high, which is to be built above Ninth street on St. Helens avenue, Tacoma, Washington. The structure will cost $1,250,000.

STORE BUILDING

Plans are being prepared in the offices of Messrs. Bertz, Maury and Winter, 210 Post street, San Francisco, for eleven stores to be built on 15th street, at Franklin, Oakland.

PUBLIC BATH HOUSE

Plans have been prepared by Carl Werner, architect in San Francisco, for a public bath house for the City of Alameda, to be built at the foot of Washington Park, that city.

ARCHITECT GUY BROWN BUSY

Plans are being prepared in the office of Guy Brown, Oakland architect, for a large two story Spanish house, to be built on the Moraga Road, Oakland, for Herbert Hauser. A three car garage, swimming pool, etc., have been completed on the property and construction of the house is expected to go forward immediately. Mr. Brown is also making plans for a Spanish house in Rockridge Terrace for Mrs. Ellen O'Donnell and for a one story factory and store building on 39th street, west of San Pablo avenue, Oakland.

TWO APARTMENT BUILDINGS

William K. Bartges, architect, 1611 Posen Ave., Berkeley, has plans for a three-story and basement frame and stucco apartment building to cost $70,000. He is also preparing plans for a three-story wood frame with a one-story Class B apartment building to be erected on Bellevue avenue, Oakland, at a cost of $50,000.

PORTLAND FACTORY

Richard Sundeleaf is architect for a building for the Jantzen Knitting Mills, East 19th between Glisen and Hoyt streets, Portland, Oregon, to cost $125,000. The building will be of reinforced concrete construction, two stories in heighth, and will contain a sprinkler system.

CALIFORNIA STYLE HOME

Drawings have been completed and a contract awarded by Gardner Dailey, 425 Mason building, San Francisco, for a two story early California style residence to be built at University avenue, Palo Alto, for Mr. Manning. The approximate cost will be $50,000. A feature of the home will be a pipe organ.

MR. ALDEN HONORED

Charles H. Alden, of Seattle, an associate editor of The Architect and Engineer, has been retained as adviser to the planning commission organized to draft a zoning ordinance for Bellingham. Mr. Alden is one of the architects most prominent in zoning and planning organization work in Seattle.

OAKLAND MERCANTILE BUILDING

Sears-Roebuck Company will erect a three-story Class A store and loft building at Telegraph Ave., Sycamore and 27th streets, Oakland, from plans by Nimmons, Carr & Wright of Chicago, Ill. The P. J. Walker Company will be in charge of construction.

PERSONALS

Edward H. Russ has opened an office for the practice of architecture at 808 American Trust Building, Berkeley. Mr. Russ would like to have building material literature, catalogues, samples, etc.

S. G. Jackson has become associated with Howard Schroeder for the practice of architecture and engineering. Their office is in the Builders' Exchange Building, 254 Hobart street, Oakland.

James Lindsay McCreery, who has been practicing architecture for the past two years with an office in the First National Bank Building, Berkeley, has gone to New York to further his experience in sculpture. Before returning to California Mr. McCreery will do some traveling abroad.

Arthur W. Angel has moved from 6111 Pacific Southwest Bank building to 150 S. Oak Knoll Ave., Los Angeles.

Richard C. Farrell has opened an office at 11 S. Second Street, Alhambra, and desires catalogs and information on building materials.

Robert Stanton has resigned as president of the Pasadena Architectural Club, and has returned to University of California at Berkeley to take a post-graduate course in architecture.

Guy Lynn Rosebrook, San Francisco and Oakland architect, is the inventor of the Du-Trak system of washing and lubricating automobiles.

M. M. O'Shaughnessy, city engineer of San Francisco, has been instructed by the Board of Supervisors to prepare estimates of cost for a subway in Market street from The Embarcadero to Valencia street.

Albert F. Roller, San Francisco architect, addressed members of the Richmond, Contra Costa County Rotary Club at the Hotel Carquinez, Richmond, Sept. 13. His topic was "Building a Skyscraper."

The architectural firm name of Stoddard & Son, following the death of its senior member, L. M. Stoddard, has been changed to George Wellington Stoddard, architect and engineer. The office is in the New Orpheum theater building, Seattle.

Fred A. Brinkman, of Kalispell, Montana, has been appointed by Governor Erickson to the Montana State Board of Architectural Examiners. He succeeds Fred F. Willson, of Bozeman, who resigned.

Walter C. Folland has moved from 631 Pacific Southwest Bank building to 150 S. Oak Knoll Ave., Pasadena.

GEORGIAN STYLE RESIDENCE

Plans have been completed by Reginald D. Johnson of Los Angeles, for a Georgian style residence to be built in the Montecito district of Santa Barbara, for Mrs. Robert J. Baldwin. The estimated cost is $250,000.

BELMONT CHAPEL

H. A. Minton, architect in San Francisco, has completed plans for a one story stucco chapel at Belmont, San Mateo County. Mr. Minton has let a contract to build a two story concrete parochial residence in Martinez for St. Catherine's Parish.

THEATER BUILDING CONTRACT

Fabre and Hildebrand, architects of San Francisco, have let contracts for the construction of a two story reinforced concrete theater at Steiner and Sutter sreets, San Francisco, to cost $50,000. The owner is H. E. Hesthal.

FACTORY BUILDING

Plans are being prepared for a concrete and hollow tile factory to be built near the Tanforan race track, San Mateo county, for Heintz and Kaufmann, 219 Natoma street, San Francisco. There will be a group of five buildings covering a six acre site.

APARTMENT BUILDING

Walter C. Falch, Hearst building, San Francisco, is completing plans for a frame and brick veneer apartment building at 20th avenue and Santiago street, San Francisco, for Edward Cornell. The estimated cost is $20,000.

15 STORY TEXTILE BUILDING

Earl Morrison, of Seattle, is architect for a fifteen story textile building, estimated to cost $600,000, and which is to be erected on Fifth avenue at Virginia, north of the Renfro-Wadenstein building, Seattle.

REMODEL MOUNTAIN HOUSE

E. T. Spencer, architect in the Shreve Building, San Francisco, has completed drawings for remodeling a mountain house at Glacier Point, Yosemite Valley, for the Yosemite Park and Curry Company.

CLAREMONT PINES RESIDENCE

Plans have been completed by Ward and Blohme, architects in the Alaska Commercial building, San Francisco, for a large residence in Claremont Pines, Oakland.

COMPETITIONS

CHICAGO WAR MEMORIAL

The War Memorial Committee of the City of Chicago, consisting of W. Rufus Abbott, Sewell L. Avery, Abel Davis, Milton J. Foreman, Roy D. Keehn, Robert P. Lamont, Robert R. McCormick, Julius Rosenwald, Howard P. Savage, James Simpson (ex-officio Chairman of the Chicago Plan Commission), Albert A. Sprague and Walter Strong desires to announce that a nationwide competition will be held for the Chicago War Memorial, with attractive prizes, and in accordance with the usage of the American Institute of Architects.

Programs are now being issued and judgment will be announced early in December. Under this general invitation programs may be obtained from Earl H. Reed, Jr., Professional Adviser, War Memorial Competition, 435 North Michigan avenue, Chicago, Illinois.

CHURCH DESIGN

The *Christian Herald* is conducting a competition for Protestant churches. The program calls for photographs and plans of finished churches having a total seating of 150 to 600 persons that have been completed not earlier than July 1st, 1927. The competition is restricted to new structures and will be judged on the following basis: 1—Excellence of design; 2—Adequacy of building with regard to size and needs of congregation, and the constituency for which it is responsible in ministries of worship, religious education, fellowship and recreational activities; 3—Skill in selection and use of materials; 4—Economy in space and convenience of plan; 5—Adaption to lot and orientation.

Prizes will be awarded as follows: First Prize—$500 to the architect and $500 to the church; Second Prize—$150 to the architect and $150 to the church; Third Prize—$100 to the architect and $100 to the church; also several honorable mentions.

The Jury of Award will consist of Harvey W. Corbett of New York, Philip Hubert Frohman of Washington, D. C., and Boston, and Elmo Cameron Lowe of Evanston, Ill. R. H. Blatter, consulting architect of the *Christian Herald* Bureau of Church Planning, will act as professional adviser.

The competition closes November 15, 1929. Copies of the program may be had upon application to the Christian Herald Association, Inc., 419 Fourth Avenue, New York.

OBITUARY

Frank T. Shea

The death of Frank T. Shea, one of San Francisco's pioneer architects, occurred at his home in Ross, Marin County, California, September 17th. Mr. Shea had been ill three months. His death is mourned by a wide circle of friends both in the profession and outside. Some of the most prominent buildings erected in San Francisco, including churches and parochial schools, were designed by Mr. Shea who, at different periods, was associated with his brother, Will D. Shea and John O. Lofquist.

Mr. Shea was a native of Bloomington, Illinois. He came to San Francisco when a young man, with his brother, Will D. Shea, with whom he was associated under the firm name of Shea & Shea at the time of his death. Completing his education in California, Mr. Shea attended the Beaux Arts in Paris.

Frank Shea was best known, perhaps, for the many Catholic churches he designed and built in all parts of the state. He was city architect for San Francisco two years following the fire, during which time he designed the City Hall dome, destroyed in 1906. Other work designed by him included the following churches in San Francisco: St. Brigid's, St. Vincent's de Paul, St. Paul's, St. James, Holy Cross, Star of the Sea, St. Monica's, the mortuary chapel at Holy Cross cemetery, and others, including schools and business buildings.

Mr. Shea was a member of Ignatian Council, No. 35, Young Men's Institute, San Rafael Lodge of Elks, No. 1108, and a past president of the Knights of St. Patrick.

John C. Poetz

John C. Poetz, early pioneer architect of Spokane, died August 7th, following an illness of several months.

He came to Spokane before the great fire of 1889 and became a partner of Kirkland K. Cutter, now of Long Beach. Mr. Poetz was the designer of the Exchange National Bank and the Rookery Building in Spokane. He also assisted in the design of many of the city's most beautiful residences, including the F. Lewis Clark home, now owned by B. L. Gordon.

The firm of Cutter and Poetz won the gold medal at the Chicago World's Fair in 1893 for designing the most outstanding building, the Idaho, at the exposition.

John A. Creutzer

Washington State Chapter A. I. A. has lost another member in the passing of John A. Creutzer. A native

of Sweden, Mr. Creutzer came to this country as a boy, and after spending the subsequent early years of his life in Minnesota moved to Spokane and later to Seattle, where he became firmly established as an architect, winning public confidence by his conscientious industry and ability. He was respected and esteemed by all who had the privilege to work with him.

IMPRESSIVE STRUCTURE OF CONCRETE

One of Los Angeles' most substantial and attractive downtown structures—the Philharmonic Auditorium — was the first all-concrete building erected there, it is revealed in a survey just completed for the Monolith Portland Cement Company.

The auditorium was built about a quarter century ago, it is pointed out, and when its plans were announced expressions of doubt and skepticism were heard on all sides regarding its ability to withstand the elements.

"In the meantime, however, the lesson of mixtures designed for durability and with workable consistencies under the principles of the water-cement ratio law, was learned," the report states, "but still the Philharmonic Auditorium stands out as one of the city's impressive structures. In view of the feeling of doubt existing when the auditorium was built, it is interesting to note that for a number of years and at the present time more than one-half of the buildings completed or going up in Los Angeles are of reinforced concrete or steel and concrete."

From 1920 to 1925 there was an increase in the consumption of cement in the United States of 61 per cent, the heaviest increase since the five year period ending in 1910, the Monolith company's report discloses. While the gains made during the two intervening five year periods were not as large as those made between 1905 and 1910 and 1920 and 1925, it is pointed out that substantial increases also were recorded, and California and the Pacific Coast contributed more than their proportionate shares to the totals.

AIRPORT CONSTRUCTION

The speed with which airports can be built and the number that can be established in the immediate future will determine in most part the development of aviation in the next few years, according to the Division of Airports and Aeronautics Department of Commerce.

Information compiled and made available by the division shows that 1174 new airports are under proposal or construction in the United States, compared to 1485, including government ports, which had been established up to July 31, 1929. Represented in the list of contemplated air fields are 47 states, the Territory of Alaska and the District of Columbia.

Pennsylvania, with 64 airports under proposal, is leading the nation in new development. New York and California are each planning 59 more fields, and Texas 56, it was stated.

AUTO TRAFFIC TUNNEL ASSURED

Major portion of the $4,849,000 cost of the new low level Alameda-Contra Costa counties tunnel will be taken from the gasoline tax moneys, with Alameda county appropriating 90 per cent and Contra Costa county 10 per cent.

The State has already appropriated $300,000 toward the project, while $1,000,000 additional will be forthcoming from the same source for the east approach road to the tunnel, it was declared.

Negotiations are now under way for rights of ways for approaches to the tunnel from both the Alameda and Contra Costa sides.

Preliminary plans for the tunnel are in the course of preparation by the engineering staff headed by George A. Posey, Alameda county surveyor, and Ralph Arnold, Contra Costa county surveyor.

PITTSBURGH SCIENTIST ABROAD

Dr. James Aston, director of the School of Mines and Metallurgy, Carnegie Institute of Technology, is visiting his childhood home in England and combining with it business trips to Ireland and Scotland. He is visiting all the large British iron works and renewing contacts with eminent scientists from that country who have been in America witnessing the Byer's new process for manufacturing wrought iron.

In addition to his academic connections, Dr. Aston is consulting metallurgist for the A. M. Byers Company, Pittsburgh, Pa., and is inventor of their new process.

NEW WASHINGTON CHAPTER MEMBER

Ogden Frank Beeman, of Pullman, Washington, has been elected to membership in the Washington State Chapter, A. I. A.

Mr. Beeman obtained his academic training at the architectural department of the University of Minnesota and later obtained a degree in architectural engineering from the State College of Washington. He is now associated with Stanley Smith, in architectural work on the buildings for the State College.

SOCIETY and CLUB MEETINGS

JOINT ARCHITECTS MEETING

The Northern California Chapter, A. I. A. met in a joint gathering with the State Association of California Architects, and the Alameda County Society of Architects at the Clift Hotel, San Francisco, on the evening of September 20th President Harris Allen presiding.

Musical selections were rendered by Austin Sperry following the dinner.

This being the occasion for the presentation of the Certificates of Award granted at the recent Biennial Honor Award Exhibition, the architects, owners, and contractors of the buildings selected, were present.

President Allen announced the ceremony with a greeting to the visitors, and reviewed the value of the exhibition, and expressed the appreciation of the Chapter to the exhibitors whose cooperation and support made it such a success.

He was followed with remarks by Mr. Carr as representative of the Industrial Association which had cooperated with the Chapter in handling the exhibit.

Announcement was then made of the awards and the certificates were presented.

The report of the nominating committee was presented with the following recommendation for officers for the coming year:

President, Frederick H. Meyer; Vice-President, Henry H. Gutterson; Secretary-Treasurer, James H. Mitchell; Director, Harris C. Allen; Director, Raymond W. Jeans.

This was the extent of Chapter business, and with an announcement of adjournment, the meeting reconvened after a short recess, under the direction of the State Association with Chairman Charles Roeth presiding.

The remainder of the evening was given to Associate matters, with a talk by Henry D. Dewell, on the Uniform Code, and short talks by officers and members on the past accomplishments and future plans of the Association. Plans were announced for the State Convention of the Association to be held in Los Angeles beginning October 11th, and other matters of general importance to the architectural profession were discussed in open forum.

The splendid response of members in attendance and the reports of the work being done, clearly indicated that the Association has become a very effective and constructive organization in the one year of its existence. J. H. M.

ALAMEDA SOCIETY OF ARCHITECTS

A business meeting of the Society was held August 5th at the Athens Club. Those present were: Messrs. Miller, Donovan, Whitton, Roeth, Allen, Corlett, Reimers and two guests, Mr. Holder and Mr. Day of the Paraffine Paint Company.

Mr. Allen stated that the regular A. I. A. meeting in September would be a joint meeting of the Chapter and the State Association.

Mr. Donovan expressed himself as in favor of the linking of the State Association, Chapter and State Board in some method of working together.

Messrs. Corlett, Miller and Donovan were appointed a nominating committee for the annual election of officers which will take place next month.

J. I. Holder spoke on "Waterproofing of Roofing." He said that the waterproof walking deck is not yet developed perfectly. Gravel is used on roofs because gravel shades the roof from the sun, thus protecting it. Walking deck over concrete construction is the easiest to build satisfactorily. The trouble with concrete over roofing is that fracturing of concrete causes failures. Soft asphaltum should be used under concrete. He said that promenade tile should not be laid over asphaltum. He recommended canvas for smaller decks, over wood construction. Over concrete composition, roofing with concrete topping should be used. He suggested the following: Build a good roof over wood, smear with asphalt, roll in gravel (no sand), then smear with asphalt and put on gravel like gravel walk; and paint with metallic paint instead of using a last coat of gravel. F. H. R.

SAN FRANCISCO ARCHITECTURAL CLUB

The monthly meeting of the San Francisco Architectural Club was held September 4th, President Harry Langley presiding. It was uneventful except for the reading of the revised Constitution and By-Laws as submitted by the committee. But for a few points they

were approved as read and will be voted upon finally next month.

The Atelier dinner, held August 23rd, marked the close of a fine season, and was a highly successful affair, so successful in fact that similar dinners are to to be held in the future at the close of each charrette. For the coming season, Mario Ciampi was elected Massier and Jim Gillen was appointed Sous-Massier. The retiring Massier presented gifts from the boys of the Atelier to their patrons, Mr. Weihe and Mr. Frick, in appreciation of their excellent instruction and guidance. The coming season promises to be the most successful in years.

Class work has alreay begun. C. J. Sly is conducting a class in reinforced concrete design on Friday evenings. Al Williams will have his class again in architectural details. The class in pencil sketching under Mr. Dinwiddie is drawing to a close, and there is some talk of starting a class in life drawing if the boys are not kept too busy with other work.

There was some discussion of the problem of new quarters for the club, though the present lease does not expire for a year and a half. It was thought it might be advisable to remain if possible at the present location, though some changes in the arrangements of the club rooms would be necessary if this is done.

J. E. D.

LOS ANGELES ARCHITECTURAL CLUB

The first fall meeting of the Los Angeles Architectural Club was held at the Mary Louise Tea Rooms, Los Angeles, September 17th. Recent club developments and coming architectural events of importance to members were discussed. President George P. Hales presided at the meeting and announced that the election of new officers would be held in the near future.

Reports were made regarding the various classes in architecture and the allied arts which are being held throughout the city. Of special interest was the announcement of a course arranged by the club for coaching in special branches of architecture, preparatory to the state board examinations. The course, which is free to all club members and to others by special permission, will be given by Mr. Cantell at the Frank Wiggins trade school.

Speakers of the evening were Roy Kelley, who talked on: "What Is An Architect?" and Conrad Butt, mural painter, who followed with a discussion of: "How Is An Artist?"

DESIGN FOR APARTMENT-HOTEL, SAN FRANCISCO
Albert H. Larsen, Architect

ARCHITECTS TO CONTRIBUTE

Plans to raise $600,000 among the architects of the United States to develop the Octagon, historic Washington structure made famous by Dolly Madison, as the national center of architecture and allied arts, are announced by D. Everett Waid, of New York, chairman of the building committee of the American Institute of Architects.

It is proposed to expend $400,000 in erecting and furnishing a library and administration building adjoining The Octagon property, 18th street and New York avenue, near the Corcoran Gallery and two blocks west from the White House. The remaining $200,000 will be added to a building endowment fund which now aggregates $70,000.

Architects in sixty states and cities, representing areas in which chapters of the Institute are located. have been appointed to the building committee by the president of the Institute, C. Herrick Hammond.

MANUAL OF PROFESSIONAL PRACTICE AND FEES

[Prescribed by Architects' League of Hollywood, California]

THE usual professional services of an architect consist of necessary conferences, the preparation of preliminary studies, working drawings, specifications, large scale and full size detail drawings, draft of forms of proposals and contracts, the issuance of certificates of payment and supervision of construction work. The architect endeavors to guard the owner against defect and deficiencies in the work of the contractors, but does not guarantee the performance of their contracts.

It is very essential that the architect and client thoroughly understand the difference between *supervision* and *superintendence*. Architectural supervision is the usual service consisting of time spent in the office and visits of inspection to the building during its construction, and is extraneous to the service encompassed by the drafting; said visits shall be at the discretion of the architect as and when he may deem necessary. Superintendence is continuous service on the works and is a position held by an assistant directly representing the architect. He is employed by the architect and his salary is paid by the owner in addition to the architect's fees.

The architect will, if the client so desires, make or procure preliminary estimates on the cost of the work or any part thereof and will endeavor to keep the actual cost of the work as low as may be consistent with the purpose and character of the building, and with proper workmanship and material. No estimate at any time procured or submitted by the architect is to be considered in any way a representative agreement or guarantee on the part of the architect of the correctness of such estimate or that the work can or will be done for the amount thereof.

1. The proportion allotted to each branch of the professional service is as follows, and should the works be stopped for any reason whatsoever, the architect shall be remunerated according to the services he has rendered, based upon the percentage quota for each division of service as segregated hereunder.

Sketch Plans	20% of total fees
Working Drawings	50% of total fees
Details	10% of total fees
Supervision	20% of total fees

2. The proper MINIMUM charges for such services are as follows:

   (a) In the case of warehouses, factories, and large plain buildings, involving no detailed interior finish, five per cent of total cost of the works.

   (b) In the case of public buildings, schools, hospitals, libraries, office buildings, banks, hotels, clubs, apartment buildings, and other buildings, except as hereinafter mentioned, six per cent of the total cost of the works.

   (c) In the case of churches, eight per cent of the total cost of the works.

   (d) In the case of residences, ten per cent of the total cost of the works.

   (e) Alterations up to $5,000, twenty per cent of the total cost of the works; over $5,000, fifteen per cent (minimum) of the total cost of the works.

   NOTE: The words "total cost of the works" mean the total cost of the finished and completed building, not including the architect's and engineer's fees or the salary of the clerk of the works.

3. Payments are due as follows:

   (a) A retainer fee as may be agreed upon, but it should not be less than one-half of one percent of the proposed total cost of the works.

   (b) Balance up to twenty per cent of the architect's fee based upon the estimated cost of the building upon instructions to proceed with the working drawings.

   (c) Balance up to forty-five per cent of the architect's fee as based upon the estimated total cost of the works when working drawings are half completed.

   (d) Balance up to eighty per cent of the architect's fee as based upon the estimated total cost of the works when working drawings, scale details, and specifications are completed.

   (e) Final balance, namely twenty per cent, to be paid pro rata as and when the certificates are issued by the architect to the contractor.

4. In the event of the architect being required to supervise the works under the separate contract system as distinguished from a general contract, then his fees for these extra services shall be increased at least fifty per cent of the fees agreed upon for usual architectural services.

5. For selecting and purchasing of furnishings, draperies, etc., a fee of five per cent upon the total cost of same shall be made.

6. For designing decorative interiors, fittings, furnishings, monumental or other special work outside the scope of usual architectural details, the fee will be regulated by special circumstances and conditions, but in any event not less than ten per cent of the total cost of same.

7. When it is necessary to have supervision other than the architect's usual supervision, the architect will appoint a clerk of the works whose salary shall be paid by the owner in addition to the commission paid to the architect.

8. None of the fees enumerated cover charges for professional services rendered in connection with litigation in consequences of delinquency or other causes, or insolvency of the owner or of a contractor.

9. Where heating, ventilating, mechanical, electrical and sanitary problems are of such a nature as to require the services of a specialist, the fee will be increased to cover the cost of such services. Chemical and mechanical tests, when required, shall be paid for by the owner.

10. The services of an architect do not include any legal work necessary in the preparation of contracts or any negotiations with respect to property, party walls, or such matters.

11. No deduction is made from the architect's fees on account of the use of old materials, penalty, liquidated damages or other sums withheld from payments to contractors.

12. Clients shall furnish and pay for property surveys, contour maps, building permits, and all other similar disbursements.

13. In matters calling for charges by the day, the charges per day will depend upon the architect's professional standing, but the minimum shall not be less than Fifty Dollars per day, or part of a day.

14. All the foregoing commissions and charges are for services rendered within the city or town in which the offices of the architect are situated. For services beyond these limits a charge per day for the architect's services and his assistants may be made in addition to the above mentioned minimum schedule for fees, and all his traveling and other incidental expenses shall be paid by the client.

15. If after a definite scheme has been approved the owner makes a decision, which, for its proper execution involves extra services and expenses for changes in or additions to the drawings, specifications, or other documents; or if a contract be let by cost of labor and materials plus a percentage or fixed sum; or if the architect be put to labor and expense by delays caused by the owner or a contractor or by the delinquency or insolvency of either; or as a result of damage by fire or other casualty, he is to be equitably paid for such extra service and expense.

16. Drawings and specifications as instruments of service are the property of the architect, the copyright in the same being reserved to him, but the client is entitled to a set of prints of the plans and specifications of the building as a matter of record.

17. When labor or material is furnished by the owner below the market cost, or when old materials are reused, the cost of the work is to be interpreted as the cost of all materials and labor necessary to complete the work, as such cost would have been if all materials had been new.

A NEW BUCK ANCHOR

A new buck anchor that is meeting with the hearty approval of architects and contractors, has just been put on the market by The Bull Dog Floor Clip Company of Winterset, Iowa. Besides being a labor saver, it rigidly anchors a wood buck to a clay or gypsum tile partition.

This anchor is of interest to builders in that it eliminates the use of nails, bolts, strips of metal lath and strap iron. One of the unique features of the anchor is that it engages the buck on the sides instead of at the back. The sharp pointed barbed ends are easily driven into the wood with the end of the bricklayer's trowel handle. The back portion forms an immovable truss when it is embedded in the mortar joint.

The Bull Dog buck anchor may be used to anchor almost any kind of a door or window frame to a masonry or concrete wall. It is manufactured in five different sizes, three, four and six inch regulars and three and four inch shorts. The short anchors are to be used in spaces too short for the regular anchor. The anchors are packed in cartons of two hundred and fifty each including twenty-one shorts. Complete stocks are carried by the regular distributors of the Bull Dog Floor Clip Company, the Kelley Sales Company, 557 Market street, San Francisco, being the representatives for Northern California.

JUDGES FOR COMPETITION

Officials of the Monolith Portland Cement Company of California have announced the selection of judges for the small house competition for architects, architectural draftsmen, students and others who can qualify, staged by Monolith Portland Midwest Company, an affiliated concern. Architects who will serve as judges are Arthur A. Fisher, Merrill H. Hoyt and Donald O. Weese of Denver; Walter E. Ware of Salt Lake City, and Thomas R. Kimball of Omaha. Richard S. Requa of San Diego is serving as professional advisor.

BOOK REVIEWS

By Edgar A. Kierulff

THE STYLES OF ENGLISH ARCHITECTURE by Arthur Stratton, F. R. I., B. A. Part II, Tudor and Renaissance. Published by J. B. Lippencott Company, Philadelphia, Pa. Price $1.00.

This slender little book is the second part of the Hand Book of Styles of English Architecture and we should like to call the reader's attention to the review of Part I, which appeared in the September issue of THE ARCHITECT AND ENGINEER. We would not be in error in repeating the same praise of Part II.

Tudor architecture and that of the English renaissance is dealt with in the same inimitable manner and the illustrations alone make the book valuable as well as delightful. The outlay of two dollars to acquire these two volumes is, to the writer's mind, two dollars well invested.

ECONOMICS OF HIGHWAY BRIDGE TYPES by C. B. McCullough, B. S., LL. B; C. E. Published by the Gillette Publishing Co., 221 East 20th Street, Chicago, Illinois. Price $5.00 net.

A neat and concise treatise on the fundamentals of ordinary highway bridge design, containing detailed drawings, sketches and photographs with costs and quantity data appended. The volume should be of service to the student of engineering for two reasons: first, as an outline of bridge economics and type selection, and secondly, the illustrations mentioned cover practically all the commonly employed types of highway bridge work. Attention is called to the fact that the discussions in this book have been prepared for the highway engineer in general, rather than for the highway bridge engineer. Cost curves and quantity data sheets will be found sufficiently general as applied to average practice.

PROCEEDINGS OF THE TWENTY-FIFTH ANNUAL CONVENTION OF THE AMERICAN CONCRETE INSTITUTE, Detroit, Michigan, February, 1929. Published by the Institute, 2970 West Grand Blvd., Detroit, Michigan.

No price is given, but all information regarding this book may be obtained by communicating with the Concrete Institute at the above address. The volume covers all the advances made in the chemistry of concrete and its manufacture together with details pertinent to the cement industry.

COLLEGE ARCHITECTURE IN AMERICA, by Charles Z. Klander and Herbert C. Wise. Published by Charles Scribner's Sons, 597 Fifth Avenue, New York City, N. Y. Price $5.00.

A thoroughly comprehensive volume on a subject of vital interest to America and to American architects. In the foreword Robert L. Kelly expresses the motive of this book as being "to sound a call for better architecture at those places where the best of everything is needed—our colleges and universities." The photography is excellent and plans are shown in detail in many instances. Altogether, this volume is one to be used, referred to and enjoyed by American architects.

CONTEMPORARY AMERICAN SCULPTURE. Put out by the California Palace of the Legion of Honor, San Francisco, Calif.

A catalog of the exhibition now being held in the Legion of Honor building, San Francisco. There are biographical sketches and some excellent illustrations of examples of American sculpture. No price is given.

WROUGHT IRON IN ARCHITECTURE by Gerald K. Geerlings. Published by Charles Scribner's Sons, 597 Fifth Ave., New York City, N. Y. Price $7.50.

A beautifully arranged book on a revived craftsmanship, with photography in keeping with the text. Contents embraces the wrought iron of the major countries of Europe, as well as a chapter on American wrought iron, twentieth century wrought iron, lighting fixtures and knockers.

The reason for this book is explained in a preface and may be considered a companion book to "Metal Crafts in Architecture." There is an excellent introduction which explains intricate details about wrought iron not readily understood by the profession and layman.

CHINA ARCHITECTS AND BUILDERS COMPENDIUM by J. T. W. Brooke, A. R. I. B. A. and R. W. Davis, North China Building, Shanghai, China.

Should be of interest to architects, engineers, builders and contractors interested in the development of the China coast cities. Is well illustrated and contains: (1) General information, land, property and building. (2) Technical information, costs and price lists. (3) A directory of architects. (4) A catalog of building materials.

THE WORK OF CRAM AND FERGUSON, Architects (Including work by Cram-Goodhue and Ferguson, with an introduction by Charles D. Maginnis. Published by The Pencil Points Press, Inc., New York.

Exquisite photography and good detail. The book is divided into the following sections — Gothic churches; Georgian churches; schools and university buildings and libraries; furniture and details; residences. There are thirty-six Gothic churches shown, six Georgian, twelve school, university and library buildings, thirteen items under furniture and details, and four residences. Plans and perspectives are shown in many instances. This new book should appeal particularly to the architect interested in ecclesiastical architecture.

BLOCK FLOORING IN BELLEVUE

Over 46,000 square feet of Cellized oak block flooring were laid in the new Bellevue Staten apartments recently opened in Oakland.

One of the features of this type of flooring is that it is installed without the use of nails. It is laid in mastic directly on the concrete.

This type of flooring is handled by the G. H. Brown Hardwood Company of Oakland, whose president and manager refers to the Bellevue installation as outstanding for two reasons: "In the first place the blocks add to the beauty of every room in which they are laid, and in the second place they insure absolute quiet as there is no floor made that so completely deadens all noise as this wonderful product.

"These floors are not all of the same pattern, however, as the method of laying gives the designer wide scope, and enables him to effect artistic borders and designs, varying same to suit the contours and finish of the rooms."

NEW WAREHOUSE OF GUNN, CARLE & CO., SAN FRANCISCO

NEW WAREHOUSE

Gunn, Carle & Company, one of San Francisco's pioneer building specialty houses, are now occupying their new warehouse at 10th and Brannan streets. Chas. M. Gunn is president of the company, and O. P. Shelley is vice president. The company's offices are at 444 Market street. The new warehouse, furnished with modern equipment for handling building supplies, is an indication of the progress made by the concern. The following are a few nationally known products of which Gunn, Carle & Co. are distributors: Kinnear steel rolling doors, steel reinforcing bars, West Wind ventilating units, Feralun and Bronzalun safety treads, Cabot's quilt, Cabot's shingle stains, Cabot's mortor colors, Medusa cement, Pacific 5-ply, Dayton inserts, hand split shades and concrete, brick and cement waterproofings.

ROLLING STEEL DOORS

On account of increased demand for "Wilson rolling steel doors" and "Sectionfold partitions," the Wilson Corporation has increased its facilities at Los Angeles and has added to its activities the manufacture of rolling steel doors in Los Angeles.

Estimator's Guide

Giving Cost of Building Materials, Wage Scale, Etc.

Amounts quoted are figuring prices and are made up from average quotations furnished by material houses to three leading contracting firms of San Francisco.

All prices and wages quoted are for San Francisco and the Bay District. There may be slight fluctuation of prices in the interior and southern part of the state. Freight cartage, at least, must be added in figuring country work.

Overtime in wage scale should be credited with time and a half, Sunday and holidays double.

Bond—1½% amount of contract.

Brickwork—

Common, $33 to $40 per 1000 laid, (according to class of work).
Face, $100 to $125 per 1000 laid, (according to class of work).
Brick Steps, using pressed brick, $1.10 lin. ft.
Brick Walls, using pressed brick on edge, 75c sq. ft. (Foundations extra.)
Brick Veneer on frame buildings, $1.00 sq. ft.
Common, f.o.b. cars, $14.50 plus cartage.
Face, f.o.b. cars, $55.00 per 1000, carload lots.

HOLLOW TILE FIREPROOFING (f.o.b. cars in carload lots).

3x12x12 in.	$ 96.00 per M
4x12x12 in.	108.00 per M
6x12x12 in.	156.00 per M
8x12x12 in.	255.00 per M

HOLLOW BUILDING TILE (f.o.b. cars in carload lots).

8x12x5½	$108.00
6x12x5½	74.00

Composition Floors — 18c to 30c per sq. ft. In large quantities, 18c per sq. ft. laid.
Rubber Tile—65c per sq. ft.

Terazzo Floors—50c to 60c per sq. ft.
Terazzo Steps—$1.50 per lin. ft.
Mosaic Floors—80c per sq. ft.

Concrete Work (material at San Francisco bunkers) — Quotations below 2000 lbs. to the ton.

No. 3 rock, at bunkers	$1.40 per ton
No. 4 rock, at bunkers	1.40 per ton
Eliott pea gravel, at bnkrs.	1.40 per ton
Washed gravel, at bnkrs.	1.40 per ton
Eliott top gravel, at bnkrs.	1.40 per ton
City gravel, at bunkers	1.40 per ton
River sand, at bunkers	1.00 per ton
Delivered bank sand	1.00 cu. yd.

Note—Above prices are subject to discount of 10c per ton on invoices paid on or before the 15th of month, following delivery.

SAND

Del Monte, $1.75 to $3.00 per ton.
Fan Shell Beach (car lots, f.o.b. Lake Majella), $2.75 to $4.00 per ton.
Cement, $2.44 per bbl. in paper sks.
Cement (f.o.b. Job, S. F.) $2.64 per bbl.
Cement (f.o.b. Job, Oak.), $2.64 per bbl.
Rebate of 10 cents bbl. cash in 15 days.
Atlas "White" .....$ 8.50 per bbl.
Forms, Labors average 22.00 per M.
Average cost of concrete in place, exclusive of forms, 28c per cu. ft.
4-inch concrete basement floor.....13c to 14c per sq. ft.
4½-inch concrete basement floor.....14c to 15c per sq. ft.
2-inch rat-proofing....6½c per sq. ft.
Concrete Steps.....$1.26 per lin. ft.

Dampproofing—

Two-coat work, 20c per yard.
Membrane waterproofing—4 layers of saturated felt, $5.50 per square.
Hot coating work, $2.00 per square.

Electric Wiring — $3.00 to $9.00 per outlet for conduit work (including switches).
Knob and tube average $2.25 to $5.00 per outlet, including switches.

Elevators—

Prices vary according to capacity, speed and type. Consult elevator companies. Average cost of installing an automatic elevator in four-story building, $2600; direct automatic, about $2500.

Excavation—

Sand, 70 cents; clay or shale, $1.25 per yard.
Teams, $10.00 per day.
Trucks, $21 to $27.50 per day.
Above figures are an average without water. Steam shovel work in large quantities, less; hard material, such as rock, will run considerably more.

Fire Escapes—

Ten-foot balcony, with stairs, $65.00 per balcony.

Glass (consult with manufacturers)—

Double strength window glass, 15c per square foot.
Quartz Lite, 50c per square foot.
Plate, 75c per square foot.
Art, $1.00 up per square foot.
Wire (for skylights), 27c per square foot.
Obscure glass, 25c per square foot.
Note—Add extra for setting.

Heating—

Average, $1.80 per sq. ft. of radiation, according to conditions.

Iron—Cost of ornamental iron, cast iron, etc., depends on designs.

Lumber (prices delivered to bldg.site)
Common, $25.00 per M (average).
Common O. P. select, average, $34.00 per M.

1 x 6 No. 3—Form lumber	$21.00 per M
1 x 4 No. 1 flooring	45.00 per M
1 x 4 No. 2 flooring	42.00 per M
1 x 4 No. 3 flooring	35.00 per M
1 x 6 No. 2 and better flooring	43.00 per M
1¼ x 4 and 6 No. 2 flooring	50.00 per M

Slash grain—

1 x 4 No. 2 flooring	$37.00 per M
1 x 4 No. 3 flooring	35.00 per M
No. 1 common run to T. & G.	30.00 per M
Lath	5.50 per M

Shingles (add cartage to prices quoted)—

Redwood, No. 1	$ .90 per bdle.
Redwood, No. 2	.75 per bdle.
Red Cedar	.90 per bdle.

Hardwood Flooring (delivered to building)—

13-16x3¼" T & G Maple	$135.00 M ft.
1 1-16x2¼" T & G Maple	145.50 M ft.
⅞x3½ sq. edge Maple	132.50 M ft.

	13-16x2¼" T&G	¾x2" T&G	5-16x2" Sq. Ed.
Clr. Qtd. Oak	$220.00 M	$160.00 M	$178 M
Sel. Qtd. Oak	150.00 M	122.00 M	131 M
Clr. Pla. Oak	155.00 M	110.00 M	113 M
Sel. Pla. Oak	132.00 M	79.00 M	97 M
Clear Maple	147.00 M	101.00 M	
Laying & Finishing	16c ft.	15c ft.	13c ft.

Wage—Floor layers, $9.00 per day.

Building Paper—

1 ply per 1000 ft. roll	$4.00
2 ply per 1000 ft. roll	6.00
3 ply per 1000 ft. roll	9.25
Sash cord com. No. 7	$ 1.05 per 100 ft.
Sash cord com. No. 8	1.20 per 100 ft.
Sash cord spot No. 7	1.75 per 100 ft.
Sash cord spot No. 8	1.10 per 100 ft.
Sash weights cast iron	57.00 ton

Nails, $3.25 base.
Belgian nails, $3.00 base.

Millwork—

O. P. $85.00 per 1000. R. W., $95.00 per 1000 (delivered).
Double hung box window frames, average, with trim, $7.00 and up, each.
Doors, including trim (single panel, 1¾ in. Ore. pine) $7.50 and up, each.
Doors, including trim (five panel, 1¾-in. Oregon pine) $6.50 each.
Screen doors, $3.50 each.
Patent screen windows, 30c a sq. ft.
Cases for kitchen pantries seven ft. high, per lineal ft., $7.00 each.
Dining room cases, $8.00 per lineal foot.
Labor—Rough carpentry, warehouse heavy framing (average), $12.00 per M.
For smaller work, average, $25 to $32 per 1000.

Marble—(Not set), add 50c to 65c per ft. for setting.

Alaska	$1.40 sq. ft.
Columbia	1.40 sq. ft.
Golden Vein Yule Colo.	1.70 sq. ft.
Pink Lepanto	1.50 sq. ft.
Italian	1.75 sq. ft

Tennessee ..... 1.70 sq. ft.
Verde Antique ..... 3.00 sq. ft.

NOTE—Above quotations are for ⅞ inch wainscot in large slabs f.o.b. factory. Prices on all other classes of work should be obtained from the manufacturers.

Floor Tile—Set in place.

Verde Antique ..... $2.75 sq. ft.
Tennessee ..... 1.60 sq. ft.
Alaska ..... 1.35 sq. ft.
Columbia ..... 1.45 sq. ft.
Yule Colorado ..... 1.45 sq. ft.
Travertine ..... 1.60 sq. ft.

Painting—

Two-coat work ..... 30c per yard
Three-coat work ..... 40c per yard
Whitewashing ..... 4c per yard
Cold Water Painting ..... 8c per yard
Turpentine, 77c per gal. in cans and 72c per gal. in drums.
Raw Linseed Oil—$1.17 gal. in bbls.
Boiled Linseed Oil—$1.20 gal. in bbls.

Carter or Dutch Boy White Lead in Oil (in steel kegs)

Per. Lb.
1 ton lots, 100 lbs. net weight 12¼c
500 lb. and less than 1 ton lots 12½c
Less than 500 lb. lots 13c

Dutch Boy Dry Red Lead and Litharge (in steel kegs)

1 ton lots, 100 lb. kegs net weight 12½c
500 lb. and less than 1 ton lots 12½c
Less than 500 lb. lots 13c

Red Lead in Oil (in steel kegs)

1 ton lots, 100 lbs. net weight 13¾c
500 lb. and less than 1 ton lots 14c
Less than 500 lb. lots 14½c
Note—Accessibility and conditions cause wide variance of costs.

Patent Chimneys—

6-inch ..... $1.00 lineal foot
8-inch ..... 1.50 lineal foot
10-inch ..... 1.85 lineal foot
12-inch ..... 2.10 lineal foot

Pipe Casings — 14" long (average), $5.00 each.

Plastering—Interior—

Yard
1 coat, brown mortar only, wood lath.. $0.40
2 coats, lime mortar hard finish, wood lath ..... .52
2 coats, hard wall plaster, wood lath.... .55
3 coats, metal lath and plaster 1.00
Keene cement on metal lath 1.25
Ceilings with ¾ hot roll channels metal lath ..... .67
Ceilings with ¾ hot roll channels metal lath plastered 1.40
Shingle partition ¾ channel lath 1 side .62
Single partition ¾ channel lath 2 sides 2 inches thick 2.20
4-inch double partition ¾ channel lath 2 sides 1.30
4-inch double partition ¾ channel lath 2 sides plastered 2.45

Plastering—Exterior—

Yard
2 coats cement finish, brick or concrete wall $1.00
2 coats Atlas cement, brick or concrete wall 1.25
3 coats cement finish No. 18 gauge wire mesh 1.75
3 coats Atlas finish No. 18 gauge wire mesh 2.05
Wood lath, $6.00 per 1000.
2.5-lb. metal lath (dipped) ..... .17
2.5-lb. metal lath (galvanized) ..... .20
3.4-lb. metal lath (dipped) ..... .22
3.4-lb. metal lath (galvanized) ..... .27
¾-inch hot roll channels, $45 per ton.
Hardwall plaster, $15.40 ton; $12.95 in paper sacks (rebate 15c sack).
Finish plaster, $16.40 ton; in paper sacks, $13.85 (rebate 10c sack).
Dealer's commission, $1.00 off above quotations.
Hydrate Lime, $19.50 ton.
Lime, f.o.b. warehouse, $2.25 bbl.; cars, $2.15
Lime, bulk (ton 2000 lbs.), $16.00 ton.
Wall Board 5 ply, $43.00 per M.

Composition Stucco—$1.60 to 2.00 per sq. yard (applied).

Plumbing—

From $60.00 per fixture up, according to grade, quantity and runs.

Roofing—

"Standard" tar and gravel, $5.25 per square for 30 squares or over.
Less than 30 squares, $5.50 per sq.
Tile, $19.00 to $35.00 per square.
Redwood Shingles, $11.00 per square in place.
Cedar Shingles, $10.50 sq. in place.
Recoat, with Gravel, $3.00 per sq.

Sheet Metal—

Windows—Metal, $1.85 a sq. foot.
Fire doors (average), including hardware, $2.15 per sq. foot.

Skylights—

Copper, $1.35 sq. ft. (not glazed).
Galvanized iron, 30c sq. ft. (not glazed).

Stone—

Granite, average, $6.00 sq. foot in place.
Sandstone, average Blue, $3.50; Boise, $2.60 sq. ft. in place.
Indiana Limestone, $2.60 per sq. ft. in place.

Store Fronts—

Copper sash bars for store fronts, corner, center and around sides, will average 75c per lineal foot.
Note—Consult with agents.

Steel Structural—$97.50 per ton (erected). This quotation is an average for comparatively small quantities
Light truss work higher; plain beam and column work in large quantities, less.
Cost of steel for average building (erected), $93.00 per ton.

Reinforcing—

Base price for car load lots, $2.75 100 lbs., f.o.b. cars.
Average cost to install, $23 per ton.

Steel Sash—

All makes, from S. F. stock, 20c to 35c per square foot.
All makes, plant shipment, 22c to 35c per square foot.
(Includes mullions and hardware.)

Tile—White glazed, 75c per foot, laid.
White floor, 75c per foot, laid.
Colored floor tile, $1.00 per ft. laid.
Promenade tile, 80c per sq. ft., laid.

1929 WAGE SCHEDULE FOR SAN FRANCISCO BUILDING TRADES

Craft	Journeymen Mechanics
Asbestos workers	$ 8.00
Bricklayers	11.00
Bricklayers' hodcarriers	7.00
Cabinet workers, (shop)	7.50
Cabinet workers, (outside)	9.00
Carpenters	9.00
Cement finishers	9.00
Electric workers	9.00
Electrical fixture hangers	8.00
Elevator constructors	10.00
Elevator helpers	7.00
Engineers, portable and hoisting	9.00
Glass workers	8.50
Hardwood floormen	9.00
Housemovers	8.00
Housesmiths, arch. iron, skilled all branches	9.00
Housesmiths, arch. iron, not skilled all branches	8.00
Housesmiths, reinforced concrete, or rodmen	9.00
Iron workers (bridge & structural) including engineers	11.00
Laborers, building (6-day week)	5.50
Lathers, channel iron	10.00
*Lathers, all other	8.50
Marble setters	10.00
Marble helpers	6.00
Marble cutters and copers	8.00
Marble bed rubbers	7.50
Marble polishers and finishers	7.00
Millmen, planing mill department	7.00
Millmen, sash and door	6.00
Millwrights	8.00
Model makers	10.00
Model casters	9.00
Mosaic and Terrazzo workers	9.00
Mosaic and Terrazzo helpers	6.00
Painters	9.00
Painters, varnishers and polishers (shop)	7.50
Painters, varnishers and polishers (outside)	9.00
Pile drivers and wharf builders	9.00
Pile drivers engineers	10.00
Plasterers	11.00
Plasterers' hodcarriers	7.50
Plumbers	10.00
Roofers, composition	8.00
Roofers, all others	8.00
Sheet metal workers	9.00
Sprinkler fitters	10.00
Steam fitters	10.00
Stair builders	9.00
Stone cutters, soft and granite	8.50
Stone setters, soft and granite	9.00
Stone carvers	8.50
Stone derrickmen	9.00
Tile setters	10.00
Tile helpers	6.00
Auto truck drivers, less than 2500 lbs.	5.50
Auto truck drivers, 2500 to 4500 lbs.	6.00
Auto truck drivers, 4500 to 6500 lbs.	6.50
Auto truck drivers, 6500 lbs. and over	7.00
General teamsters, 1 horse	5.50
General teamsters, 2 horses	6.00
General teamsters, 4 horses	6.50
Plow teamsters, 4 horses	6.50
Scraper teamsters, 2 horses	6.00
Scraper teamsters, 4 horses	6.00

*On wood lath if piece rates are paid they shall be not less than such an amount as will guarantee, on an average day's production of 1600 lath, the day wage set forth.

Eight hours shall constitute a day's work for all Crafts except as otherwise noted.

Plasterer's hodcarriers, bricklayers' hodcarriers, roofers, laborers, and engineers, portable and hoisting, shall start 15 minutes before other workmen, both at morning and noon.

Five and one-half days, consisting of eight hours on Monday to Friday inclusive, and four hours on Saturday forenoon shall constitute a week's work.

Overtime shall be paid as follows: For the first four hours after the first eight hours, time and one-half. All time thereafter shall be paid double time. Saturday afternoon (except laborers), Sundays from 12 midnight Saturday, and Holidays from 12 midnight of the preceding day shall be paid double time. On Saturday afternoon laborers, building, shall be paid straight time.

Where two shifts are worked in any twenty-four hours shift time shall be straight time. Where three shifts are worked, eight hours pay shall be paid for seven hours on the second and third shifts.

All work shall regularly be performed between the hours of 8 A. M. and 5 P. M., provided, that in emergencies or where premises cannot be vacated for work by mechanics until the close of business, men then reporting for work shall work at straight time; but any work performed after midnight shall be paid time and one-half except on Saturday afternoons, Sundays, and holidays, when double time shall be paid.

Recognized holidays to be New Year's Day, Decoration Day, Fourth of July, Labor Day, Admission Day, Thanksgiving Day and Christmas Day.

Men ordered to report for work, for whom no employment is provided, shall be entitled to two hours pay.

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ACOUSTIC CORRECTIONS
Johns-Manville Company, all principal Coast cities.
R. Guastavino Co., represented by Albert B. Mann, Engineer, 417 Crocker Bldg., San Francisco.
"Acousti-Celotex," Western Asbestos Magnesia Co., 25 South Park, San Francisco.
American Hair & Felt Co., 1615 Ditman St., Los Angeles.

AIR COMPRESSORS
Dayton, sold by Simonds Machinery Co., 816 Folsom Street, San Francisco; 520 East 4th Street, Los Angeles.

ACOUSTIC DEADENING
American Hair & Felt Co., 1615 Ditman St., Los Angeles.

ART METAL
Federal Ornamental Iron and Bronze Co., 16th St., and San Bruno Ave., San Francisco.
Michel & Pfeffer Iron Works, 1415 Harrison Street, San Francisco.

ARCHITECTURAL ENCAUSTIC TILE
Mangrum-Holbrook Co., Inc., 1235 Mission Street, San Francisco.

ARCHITECTURAL BRONZE
Elevator Supplies Company, Inc., Hoboken, N. J.; 186 Fifth Street, San Francisco; 1120 S. Hope Street, Los Angeles.
Zouri Drawn Metals Company, Chicago Heights, Illinois, (Zouri Company of California, 1208 Howard St., San Francisco.

ARCHITECTURAL TERRA COTTA
N. Clark & Sons, 116 Natoma Street, San Francisco.
Gladding, McBean & Co., 660 Market St., San Francisco; 621 S. Hope St., Los Angeles; 1500 First Ave. South, Seattle; 454 Everett St., Portland; 15th and Dock Sts., Tacoma, and 22nd and Market Sts., Oakland
W. S. Dickey Clay Mfg. Co., San Francisco and Oakland.

ASBESTOS MATERIALS
Johns-Manville, Inc., of California, 159 Montgomery St., San Francisco. Coast Factory at Pittsburg, Calif.
Western Asbestos Magnesia Company, 25 South Park, San Francisco.
Jones Bros. Asbestos Supply Co., Inc., 500 Second St., San Francisco.

ASPHALT ROOFING
El Rey Products Company, 1633 San Pedro St., Los Angeles; 960 Seventh St., San Francisco; 65 Columbia St., Seattle; 850 E. Taylor St., Portland.
The Paraffine Companies, Inc., San Francisco, Oakland, Los Angeles, Portland and Seattle.

AUTOMATIC THERMOSTAT CONTROLS
Majestic Electric Appliance Company, 590 Folsom Street, San Francisco.

BEDS—WALL—CONCEALED, ETC.
Marshall & Stearns Co., Phelan Bldg., San Francisco.

BLACKBOARDS
C. F. Weber & Co., 601 Mission St., San Francisco, Los Angeles and Reno, Nevada.

BOILERS
Kewanee Boiler Co., 635 Mission St., San Francisco.
Kewanee Water Supply System, Simonds Machinery Co., 816 Folsom St., San Francisco.

BONDS FOR CONTRACTORS
Bonding Company of America, Kohl Bldg., San Francisco.
Globe Indemnity Co., 444 California St., San Francisco.
Fidelity & Casualty Co. of New York, Balfour Bldg., San Francisco.
Standard Accident Insurance Company, California Commercial Union Building, San Francisco.

BRASS GOODS, CASTINGS, ETC.
H. Mueller Manufacturing Co., 1072 Howard St., San Francisco.

BRICK—FACE, COMMON, ENAMEL, GLAZED
Gladding, McBean & Co., 660 Market St., San Francisco; 621 S. Hope St., Los Angeles; 1500 First Ave. South, Seattle; 454 Everett St., Portland; 15th and Dock Sts., Tacoma, and 22nd and Market Sts., Oakland.
N. Clark & Sons, 116 Natoma Street, San Francisco.
W. S. Dickey Clay Mfg. Co., San Francisco and Oakland.
Port Costa Brick Works, 6th and Berry Sts., San Francisco.
McNear Brick Company, Monadnock Bldg., San Francisco.
Richmond Pressed Brick Co., Sharon Bldg., San Francisco. Plant at Richmond, Cal.
Cannon & Co., Sacramento; 517 Call Bldg., San Francisco; Builders Exchange Bldg., Oakland.

BRICK AND CEMENT COATING
The Paraffine Companies, Inc., 475 Brannan St., San Francisco.

BUILT-IN FURNITURE
Built-in Fixture Company, 2608 San Pablo Ave., near Dwight Way, Berkeley, and Hoosier Store, Pacific Bldg., San Francisco.

BUILDERS' HARDWARE
"Corbin" hardware, sold by Palace Hardware Company, 581 Market St., San Francisco.
Richards-Wilcox Mfg. Co., Aurora, Ill.; represented by Ewing-Lewis Company, Hunter-Dulin Bldg., San Francisco, and 408 S. Spring Street, Los Angeles.

BUILDING PAPERS
El Rey Products Company, 1633 N. San Pablo Street, Los Angeles; 960 Seventh Street, San Francisco; 65 Columbia Street, Seattle; 850 E. Taylor St., Portland, Ore.
The Paraffine Companies, Inc., San Francisco, Los Angeles, Portland and Seattle.
Pacific Materials Co., 444 Market St., San Francisco.

CEMENT
Atlas White, manufactured by The Atlas Portland Cement Company, 25 Broadway, New York.
Hydro-plastic cement, manufactured by Southwestern Portland Cement Company, 356 S. Spring St., Los Angeles
Monolith Plastic Waterproof Cement Company, manufactured by Monolith Portland Cement Company, Bartlett Building, Los Angeles; 741 Monadnock Bldg., San Francisco; 1207 Public Service Bldg., Portland.
Pacific Portland Cement Co., Hunter-Dulin Bldg., San Francisco, also Portland, Ore., Los Angeles and San Jose, Calif
Santa Cruz Portland Cement Company, Crocker Building, San Francisco.

CEMENT EXTERIOR WATERPROOF PAINT
Bass-Heuter Paint Company, San Francisco, Los Angeles, Portland, Seattle.
The Paraffine Companies, Inc., San Francisco, Los Angeles, Portland and Seattle.

CEMENT TESTS—CHEMICAL ENGINEERS
Robert W. Hunt Co., 251 Kearny Street, San Francisco.

CLAY PRODUCTS
N. Clark Sons, 116 Natoma Street, San Francisco.
Cannon & Co., Sacramento, Cal.; 517 Call Bldg., San Francisco.
W. S. Dickey Clay Mfg. Co., San Francisco and Oakland.
Gladding, McBean & Co., 660 Market St., San Francisco; 621 S. Hope St., Los Angeles; 1500 First Ave. South, Seattle; 454 Everett St., Portland; 15th and Dock Sts., Tacoma, and 22nd and Market Sts., Oakland.
United Materials Co., Sharon Bldg., San Francisco.

COMPOSITION ROOFING
El Rey Products Company, 1633 San Pedro St., Los Angeles; 960 Seventh St., San Francisco; 65 Columbia St., Seattle; 850 E. Taylor St., Portland.
The Paraffine Companies, Inc., San Francisco, Oakland, Los Angeles, Portland and Seattle.

CONCRETE OR CEMENT HARDENER
Gunn, Carle & Co., Inc., 444 Market St., San Francisco.

CONCRETE REINFORCING
Soule Steel Company, Rialto Building, San Francisco.
Gunn, Carle & Co., Inc., 444 Market St., San Francisco.
Clinton Welded Wire Fabric, Wickwire Spencer Steel Corporation, 144 Townsend St., San Francisco.
Pacific Coast Steel Company, Hunter-Dulin Bldg., San Francisco.

CONTRACTORS—GENERAL—
Adam-Arras Co., 185 Stevenson St., San Francisco.
F. R. Siegrist Co., 604 Williams Bldg., San Francisco.
Spivock & Spivock, Hobart Building, San Francisco, and 412 Water St., Oakland.
Vogt & Davidson, Inc., 185 Stevenson St., San Francisco, and Builders Exchange, Oakland.
K. E. Parker Company, Inc., 135 South Park, San Francisco.
Barrett & Hilp, 918 Harrison Street, San Francisco.
Lindgren-Swinerton, Inc., Standard Oil Bldg., San Francisco.
R. W. Littlefield, 337 17th Street, Oakland.
Dinwiddie Construction Co., Crocker Bldg., San Francisco.
Clinton Construction Company, 923 Folsom St., San Francisco.
Monson Bros., 475 Sixth St., San Francisco.
McLeran & Co., R., Hearst Bldg., San Francisco.
Chas. D. Vezey & Sons, Builders Exchange Bldg., Oakland.
Jacks & Irvine, Call Bldg., San Francisco.
Industrial Construction Company, 815 Bryant Street, San Francisco.
Anderson & Ringrose, 320 Market Street, San Francisco.
G. P. W. Jensen, 320 Market Street, San Francisco.

CORK TILE
Congoleum-Nairn, Inc., D. N. & E. Walter & Co., San Francisco, and Broadway Department Store, Los Angeles.
Van Fleet-Freear Company, 557 Howard St., San Francisco, and 420 S. Spring St., Los Angeles.

CRIBBING FOR RETAINING WALLS
Massey Concrete Products Corporation, Colton California and Spokane, Washington.

CRUSHED ROCK
Pacific Coast Aggregates, Inc., General Office, Hunter-Dulin Bldg., 111 Sutter St., San Francisco.

DAMP-PROOFING AND WATER-PROOFING
Western Asbestos Magnesia Company, 25 South Park, San Francisco.
The Paraffine Companies, Inc., San Francisco, Oakland, Los Angeles, Portland and Seattle.
West Coast Kalsomine Co., 710 Rives-Strong Bldg., Los Angeles, and P. O. Box C, West Berkeley.
Gunn, Carle & Co., 444 Market St., San Francisco.

DEADENING MATERIAL
"Insulite" Western Asbestos Magnesia Co., 25 South Park, San Francisco.
The Paraffine Companies, Inc., San Francisco, Oakland, Los Angeles, Portland and Seattle.
American Hair & Felt Co., 1615 Ditman St., Los Angeles.
Gunn, Carle & Co., 444 Market St., San Francisco.
"Torfoleum" manufactured by Mailliard & Schmiedel, 203 California St., San Francisco.

DOOR CHECKS—CONCEALED
The Condor Company, 58 Sutter St., San Francisco.

DOOR CLOSERS
Norton door closer, sold by Nissen-Currier Co., 265 Minna St., San Francisco, and 302 Colo Bldg., Los Angeles.

DOOR HANGERS
Richards-Wilcox Mfg. Co., The Ewing-Lewis Co., Hunter-Dulin Bldg., San Francisco.

DOORS—FIREPROOF
Detroit Steel Products Company, 251 Kearny St., San Francisco.
Kinnear Mfg. Co., represented by Gunn, Carle & Co., 444 Market St., San Francisco.

DOORS—FREIGHT ELEVATOR
The Peelle Co., rooklyn, N. Y., represented by Persons Dwan & Co., 534 Sixth Street, San Francisco.

DOORS—HOLLOW METAL
Fire Protection Products Co., 1101 Sixteenth St., San Francisco.
Dahlstrom Metallic Door Co., Jamestown, N. Y., Coast plant, 3350 E. Slauson Ave., Los Angeles.
Forderer Cornice Works, Potrero Ave., San Francisco.

DOORS—ROLLING
Jas. G. Wilson Corporation, 605 Market St., San Francisco.
Kinnear rolling steel doors, sold by Gunn, Carle & Co., 444 Market St., San Francisco.

DRAIN PIPE AND FITTINGS
"Corrosiron" Acid Proof manufactured by Pacific Foundry Co., Harrison and 18th Sts., San Francisco.

DRAPERIES AND WINDOW SHADES
D. N. & E. Walter & Co., 562 Mission Street, San Francisco.

DRINKING FOUNTAINS
Haws Sanitary Drinking Faucet Co., 1808 Harmon St., Berkeley, and C. F. Weber & Co., San Francisco and Los Angeles.
Standard-Pacific Plumbing Fixtures, 349 Sutter St., San Francisco; 919 W. 7th St., Los Angeles; 1301 5th Ave., Seattle, Wash.; 48 5th St., Portland, Ore.

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ALPHABETICAL LIST OF ADVERTISERS ON PAGE 125

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Spencer Elevator Company, 166 7th St., San Francisco.
Elevator Supplies Co., Inc., Hoboken, N. J.; San Francisco office, 186 Fifth St.

ELECTRICAL CONTRACTORS
Butte Electrical Equipment Company, 2014 Folsom St., San Francisco.
Charles A. Langlais, 472 Tehama St., San Francisco.
H. C. Read & Co., 389 Clementina St., San Francisco.

ENGINEERS—CONSULTING, ELECTRICAL, MECHANICAL
Hunter & Hudson, 41 Sutter Street, San Francisco.
Charles T. Phillips Company, Bank of Italy Bldg., San Francisco, and Roberts Bldg., Los Angeles.

ELECTRIC AIR AND WATER HEATERS
Majestic Electric Appliance Company, 590 Folsom Street, San Francisco.
Wesix Heater Company, Rialto Building, San Francisco.
Sandoval Sales Company, 415 Jessie Street, San Francisco.
Weir Electric Appliance Company, 26th and Adeline Streets, Oakland.

ELECTRIC REFRIGERATION
General Electric Refrigerator, George Belsey Company, Los Angeles, Distributor, Stores in Los Angeles, Pasadena, Glendale, Hollywood, Santa Monica and Monrovia; L. H. Bennett, Northern California Distributor, 2112 Broadway, Oakland; 318 Stockton St., San Francisco.
Wayne Home Equipment Company, Fort Wayne, Indiana, represented by Hill and Stoops, 4214 Broadway, Oakland, Calif.

ELECTRICAL SUPPLIES AND EQUIPMENT
The Fink Company, 10th Ave. at 24th St., New York; 77 O'Farrell St., San Francisco
Drendel Electrical & Mfg. Co., 1345 Howard St., San Francisco.
Frank Adam Electric Company, 340 Fremont St., San Francisco, and 1127 Wall Street, Los Angeles; general offices, St. Louis, Mo.
Westinghouse Electric & Manufacturing Company, East Pittsburgh, Pa., and First National Bank Bldg., San Francisco.
Sterling Bronze Co., Inc., 18 East 40th St., New York.

ELECTROLIERS
Northern Street Lighting Company, 389 Clementina Street, San Francisco.

ELEVATOR ENTRANCE DOORS
Dahlstrom Metallic Door Company, Jamestown, N. Y., Pacific Coast plant, 3350 East Slauson Ave., Los Angeles.

ELEVATORS—PASSENGER AND FREIGHT
Otis Elevator Company, Stockton and North Point, San Francisco.
Spencer Elevator Company, 166 Seventh St., San Francisco.
Westinghouse Electric and Manufacturing Company, First National Bank Bldg., San Francisco, general offices and works, Pittsburgh, Pa.

ELEVATOR SIGNALS, DOOR EQUIPMENT
Elevator Supplies Co., Inc., Hoboken, N. J.; San Francisco office, 186 Fifth St.
The Peelle Co., Brooklyn, N. Y., represented by Persons Dwan & Co., 534 Sixth Street, San Francisco.
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Von Duprin, manufactured by Vonnegut Hardware Company, Indianapolis; sold by D. A. Pancoast Co., 605 Market St., San Francisco.

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Michel & Pfeffer Iron Works, Harrison and Tenth Sts., San Francisco.

FIRE EXTINGUISHING APPARATUS
"Lux" System, represented by Hough and Egbert, Inc., 519 Robert Dollar Building, San Francisco.

FIRE DETECTING APPARATUS
"Derby" and "Selex" Systems, represented by Hough and Egbert, Inc., 519 Robert Dollar Building, San Francisco.

FIRE ESCAPES
Michel & Pfeffer Iron Works, 1415 Harrison St., San Francisco.
Palm Iron & Bridge Works, Sacramento.
Western Iron Works, 141 Beale St., San Francisco.

FIRE SPRINKLERS—AUTOMATIC
Fire Protection Engineering Co., 407 Exchange Building, 369 Pine Street, San Francisco.
Grinnell Company of the Pacific, Fifth and Brannan Sts., San Francisco.

FIXTURES—BANK, OFFICE, STORE, ETC.
Home Manufacturing Company, 552 Brannan St., San Francisco.
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Pacific Manufacturing Company, San Francisco, Los Angeles, Oakland and Santa Clara.
The Fink & Schindler Co., 228 13th St., San Francisco.

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Congoleum-Nairn, Inc., D. N. & E. Walter & Co., San Francisco, and Broadway Department Store, Los Angeles.
The Paraffine Companies, Inc., San Francisco, Los Angeles, Oakland, Portland, Seattle.

FLOOR HARDENER
Master Builders Company, Mills Bldg., San Francisco; 426 So. Spring Street, Los Angeles; also Seattle, Portland and Spokane.

FLOORS—REDWOOD BLOCK
Redwood Block Floor Company, Bryant at 18th St., San Francisco.
Pacific Redwood Floor Company, 311 California St., San Francisco, and 420 Grant Bldg., Los Angeles.

FLOOR CLIPS
Bull Dog Floor Clip Co., 557 Market St., San Francisco and Hibernian Bldg., Los Angeles.

FLOORS—HARDWOOD
Inlaid Floor Company, 600 Alameda Street, San Francisco and 4067 Watts Street, Emeryville, Oakland.
"Perfection" Brand Oak Flooring, Arkansas Oak Flooring Co., Pine Bluff, Arkansas.
J. E. Higgins Lumber Company, San Francisco.
White Brothers, 5th and Brannan streets, San Francisco; 500 High Street, Oakland.
Cellized Oak Flooring, Inc., Memphis, Tenn. Represented by Geo. H. Brown Hardwood Company, Oakland.

FREIGHT ELEVATOR DOORS
The Peelle Co., Brooklyn, N. Y., represented by Persons Dwan & Co., 534 Sixth Street, San Francisco.

FURNITURE—OFFICE, SCHOOL, CHURCH, THEATER
The Fink & Schindler Co., Inc., 218-68 13th St., San Francisco.
Home Mfg. Co., 552 Brannan Street, San Francisco.
Mullen Mfg. Co., 64 Rausch Street, San Francisco.
C. F. Weber & Co., San Francisco, Los Angeles, and Phoenix, Ariz.

GENERAL CONTRACTORS
Spivock & Spivock, Hobart Building, San Francisco.

GLASS
Cobbledick-Kibbe Glass Co., 666 Howard St., San Francisco.

GRAVEL AND SAND
Pacific Coast Aggregates, Inc., General Office, Hunter-Dulin Bldg., 111 Sutter St., San Francisco.
Del Monte White Sand, Del Monte Properties Co., Crocker Bldg., San Francisco.

GYMNASIUM EQUIPMENT—LOCKERS, ETC.
Ellery Arms Co., 583 Market St., San Francisco.

HANGERS—RELIANCE—
Graham & Norton Company, 213 Minna Street, San Francisco.

HARDWARE
Vonnegut hardware, sold by D. A. Pancoast Company, 605 Market St., San Francisco.
Palace Hardware Company, 581 Market St., San Francisco.
Richards-Wilcox Mfg. Co., represented by Ewing-Lewis Company, Hunter-Dulin Bldg., San Francisco; 408 S. Spring Street, Los Angeles.

HARDWOOD LUMBER
J. E. Higgins Lumber Co., San Francisco.
G. H. Brown Hardwood Lumber Co., 47th Ave. at E. 12th Street, Oakland.
White Brothers, 5th and Brannan streets, San Francisco; 500 High Street, Oakland.

HEATING—COAL FURNACE
Montague Range & Furnace Company, 376 Sixth St., San Francisco.

HEATING—ELECTRIC
Wesix Electric Air Heaters, manufactured and distributed by Wesix Heater Company, Rialto Building, San Francisco.
Apex Air and Water Electric Heaters, Sandoval Sales Company, 115 Jessie Street, San Francisco.
Majestic Electric Appliance Co. (bathroom heater), 590 Folsom St., San Francisco.
Weir Electric Appliance Company, 26th and Adeline Streets, Oakland.

HEATING—STEAM
Warren Webster & Company, Sharon Bldg., San Francisco, and 306 Crocker St., Los Angeles.

HEATING CONTRACTORS
Alex Coleman, 706 Ellis St., San Francisco
Gilley-Schmid Company, 198 Otis St., San Francisco.
Hateley & Hateley, Mitau Bldg., Sacramento.
Mangrum & Otter, 827-831 Mission St., San Francisco.
W. H. Picard, 5656 College Ave., Oakland.
Luppen & Hawley, 3126-J St., Sacramento.
William F. Wilson Co., 240 Fourth St., San Francisco.
James A. Nelson, Inc., Howard and Tenth Sts., San Francisco.
Scott Company, 243 Minna St., San Francisco.
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E. A. Cornely, Inc., 1452 Bush Street, San Francisco.
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HOLLOW BUILDING TILE (Burned Clay)
Cannon & Co., plant at Sacramento; Call Bldg., San Francisco.
N. Clark & Sons, 112-116 Natoma Street, San Francisco; works, West Alameda, California.
Gladding, McBean & Co., 660 Market St., San Francisco; 621 S. Hope St., Los Angeles; 1500 First Ave. South, Seattle; 454 Everett St., Portland; 15th and Dock Sts., Tacoma, and 22nd and Market Sts., Oakland.
W. S. Dickey Clay Mfg. Co., San Francisco and Oakland.

HOSE
The American Rubber Mfg. Co., Park Ave. and Watts St., Oakland, Calif.

HOSE RACKS AND REELS
American Rubber Mfg. Co., San Francisco, Oakland, Los Angeles and Portland, Ore.

HOSPITAL SIGNAL SYSTEMS
Chicago Signal Co., represented by Garnett Young & Co., 390 Fourth St., San Francisco.

INCINERATORS
Kerner Incinerator Company, 450 Clementina Street, San Francisco.
The Goder, sold by M. E. Hammond, Mezzanine, Pacific Bldg., San Francisco.
Kewanee Boiler Co., 635 Mission Street, San Francisco.

INDUSTRIAL LIGHTING EQUIPMENT
Westinghouse Electric and Mfg. Co., East Pittsburgh, Pa., and First National Bank Bldg., San Francisco.

INSPECTIONS AND TESTS
Robert W. Hunt Co., 251 Kearny Street, San Francisco.

INSULATION
"Insulex" manufactured by Pacific Portland Cement Co., Hunter-Dulin Bldg., San Francisco, & 1200 Chapman Bldg., Los Angeles.
Western Asbestos Magnesia Co., 25 South Park, San Francisco.
American Hair and Felt Company, 1615 N. Ditman St., Los Angeles.
Gunn, Carle & Co., 444 Market St., San Francisco.
"Torfoleum" manufactured by Mailliard & Schmiedel, 203 California St., San Francisco.

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Richards-Wilcox Manufacturing Company, Aurora, Ill., announce that the company is now in a position to accept the complete responsibility of any wardrobe proposition from beginning to end, including laying out the job, manufacturing the material and erecting it.

Arrangements have been completed with the Compound and Pyrono Door Company, whereby they will manufacture their key veneered wardrobe doors exclusively.

Richards-Wilcox engineers will be glad of an opportunity to co-operate on any wardrobe problems you may have. A catalog illustrating and describing disappearing wardrobes may be had by addressing the home office.

PROVISIONAL CERTIFICATES TO PRACTICE

The following have been granted provisional certificates to practice architecture in California:

Rowland Ashby Curry, 816 West Fifth street, Los Angeles.

Frederick C. Marsh, 1864 Glenview Terrace, Altadena.

William F. McCoy, 35 South Raymond avenue, Pasadena.

John Robert Harris, 6715 Hollywood Boulevard, Los Angeles.

Rudolph Michael Schindler, 835 Kings Road, Los Angeles.

Paul W. Krempel, 415 Bank of Italy building, Los Angeles.

A "DECK OF CARDS"

An original and striking bit of advertising is being done by the Pacific Portland Cement Company. The company is mailing out a series of post cards, in two colors, which strike a new vein in building material advertising—they show no buildings, no structures of any kind.

For example, one card shows a pair of dice showing "7." The text underneath explains that cement forms only 1-7th by weight of the mass of concrete, and that it is the vital 7th.

The feature of "flowability" of cement is illustrated with an attractive waterfall. This landscape is so designed that the text forms a part of the rock breast over which the current is pouring.

The series consists of 16 cards.

BUILDING OFFICIALS CONFERENCE

DAVID H. MERRILL, formerly of the firm of Noice and Merrill, structural engineers, Los Angeles, has been made managing secretary-treasurer of the Pacific Coast Building Officials Conference with headquarters at 1101 Heartwell Building, Long Beach, California.

The Eighth annual meeting of the Pacific Coast Building Officials Conference was held in Portland, Oregon, September third to sixth, and a large group of city building officials and allied interests of the West attended.

How Bernard Maybeck would treat Myron Hunt's Pasadena Library, as visualized by Henry H. Gutterson. Drawing Exhibited at State Convention of Architects.

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WHO'S WHO AMONG CONTRACTORS

ALPHABETICAL LIST OF ADVERTISERS ON PAGE 125

INSULATED WIRE
Hazard Insulated Wire Works, Wilkes-Barre, Pa., Russ Building, San Francisco, Seattle and Los Angeles.

KITCHEN EQUIPMENT
General Electric Refrigerator, L. H. Bennett, Rialto Building, San Francisco, and the George Belsey Company, Architects Building, Los Angeles.
James A. Nelson, Inc., Howard and Tenth Sts., San Francisco.
Mangrum Holbrook Company, 1235 Mission St., San Francisco.

LACQUERS
The Paraffine Companies, Inc., San Francisco, Los Angeles, Oakland, Portland and Seattle.
Bass-Hueter Paint Company, San Francisco, and all principal Coast cities.

LATHING MATERIAL—WIRE, METAL, ETC.
Genfire Steel Co., Sheldon Bldg., San Francisco; Builders' Exchange, Oakland.
Truscon Steel Co., Sharon Building, San Francisco.
Soule Steel Company, Rialto Building, San Francisco, and Los Angeles.

LAUNDRY MACHINERY AND EQUIPMENT
American Laundry Machinery Company, 921 Howard Street, San Francisco.
Troy Laundry Mach'y Co., Ltd., East Moline, Ill., and 951 Mission St., San Francisco.
Gunn, Carle & Co., 444 Market St., San Francisco.

LIGHTING FIXTURES, OUTLETS, ETC.
Westinghouse Electric and Mfg. Co., First National Bank Bldg., San Francisco; general offices and works, Pittsburgh, Pa.
The Frink Company, 369 Lexington Avenue, New York, and principal Coast cities.
Sterling Bronze Co., Inc., 18 East 40th St., New York.

LIME PRODUCTS
United States Lime Products Corp., San Francisco, Los Angeles, Portland, Ore.

LINOLEUM
William Volker & Co., 631 Howard St., San Francisco, and 2301 E. 7th St., Los Angeles.
The Paraffine Companies, factory in Oakland; office, 475 Brannan Street, San Francisco.
W. & J. Sloane, 216 Sutter Street, San Francisco.
Van Fleet- Freear Company, 557 Howard St., San Francisco, and 420 S. Spring St., Los Angeles.
Bonded Floors—Sealex Linoleum and Tile manufactured by Congoleum-Nairn, Inc., D. N. & E. Walter & Co., San Francisco; Broadway Department Store, Los Angeles.

LUMBER
G. H. Brown Hardwood Company, 1044 47th Ave., Oakland.
Pacific Mfg. Co., San Francisco, Oakland, Los Angeles and Santa Clara.
Santa Fe Lumber Co., 16 California St., San Francisco.
J. E. Higgins Lumber Company, 423 Sixth St., San Francisco.
Sunset Lumber Company, First and Oak Sts., Oakland.
White Brothers, 5th and Brannan Sts., San Francisco, and 500 High St., Oakland.
E. K. Wood Lumber Co., Frederick and King streets, Oakland.

MAIL CHUTES
Cutler Mail Chute Co., represented by Price Building Specialties Co., 683 Howard St., San Francisco and Continental Building Specialties Co., 1216 Hibernian Bldg., Los Angeles.

MARBLE
American Marble Company, 25 Columbus Square, San Francisco.
Clervi Marble Company and Mosaic Co., 1721 San Bruno Avenue, San Francisco.
Ray Cook Marble Company, foot of Powell St., Oakland.
Joseph Musto Sons-Keenan Co., 535 N. Point St., San Francisco.
Vermont Marble Co., Coast branches, San Francisco, Los Angeles and Tacoma.
Tompkins-Kiel Marble Company, 505 Fifth Ave., New York; also Chicago, Philadelphia and San Francisco.

MASONRY ANCHORS
Steelform Contracting Company, Monadnock Bldg., San Francisco; Edwards & Wildey Bldg., Los Angeles.

METAL COVERED DOORS
Fire Protection Products Co., 1101 Sixteenth St., San Francisco.
Forderer Cornice Works, Potrero Ave., San Francisco.

MILLWORK
The Fink & Schindler Co., Inc., 218-68 13th St., San Francisco.
Pacific Mfg. Co., San Francisco, Los Angeles, Oakland and Santa Clara.
Sunset Lumber Company, First and Oak Streets, Oakland.
Lannom Bros. Mfg. Co., Fifth and Magnolia Sts., Oakland.
Atkinson Mill & Mfg. Co., 2985 Chapman Avenue, Oakland.
Chicago Lumber Company of Washington, 66th and 69th Aves and Spencer Street, Oakland.
E. K. Wood Lumber Co., Frederick and King streets, Oakland.

MONEL METAL
"Inco" brand, distributed on the Pacific Coast by the Pacific Foundry Company, Harrison and 18th Streets, San Francisco, and Eagle Brass Foundry, Seattle, Wash.

OIL BURNERS
Rayfield Oil Burner, Coast Distributors, E. A. Cornely, Inc., 1452 Bush Street, San Francisco.
S. T. Johnson Company, 1337 Mission St., San Francisco; 940 Arlington St., Oakland; 1729 Front St., Sacramento, and 230 N. Sutter St., Stockton.
Vaughn-G. E. Witt Co., 4224-28 Hollis Street, Emeryville, Oakland.
W. S. Ray Mfg. Company, 170 Sutter St., San Francisco, and 2206 San Pablo Ave., Oakland.
Coen Company, 112 Market Street, San Francisco.
Wayne Home Equipment Company, Fort Wayne, Indiana, represented by Hill and Stoops, 4214 Broadway, Oakland, Calif.

ORNAMENTAL IRON AND BRONZE
Federal Ornamental Iron and Bronze Co., 16th St. and San Bruno Ave., San Francisco.
Michel & Pfeffer Iron Works, 1415 Harrison St., San Francisco.
Palm Iron & Bridge Works, Sacramento.

PAINTING, DECORATING, ETC.
The Tormey Co., 681 Geary St., San Francisco.
A. Quandt & Sons, 374 Guerrero Street, San Francisco.

PAINTS, OILS, ETC.
The Paraffine Companies, Inc., San Francisco, Los Angeles, Oakland, Portland and Seattle.
Bass-Hueter Paint Company, San Francisco, Los Angeles, Portland, Seattle.
General Paint Company, Los Angeles, San Francisco, Oakland, Seattle, Spokane and Portland.

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Drendell Electric & Mfg. Co., 1760 Howard St., San Francisco.
Frank Adam Electric Company, 340 Fremont St., San Francisco, and 1127 Wall Street, Los Angeles; general offices, St. Louis, Mo.
Westinghouse Elec. and Mfg. Co., First National Bank Bldg., San Francisco; general offices and works, Pittsburgh, Pa.

PANELS—HARDWOOD
White Brothers, 5th and Brannan Sts., San Francisco, and 500 High St., Oakland.

PANIC EXIT DEVICES
Von Duprin, manufactured by Vonnegut Hardware Company, Indianapolis; sold by D. A. Pancoast Co., 605 Market Street, San Francisco.

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Dahlstrom Metallic Door Company, Jamestown, N. Y., Coast plant, 3350 E. Slauson Ave., Los Angeles
Pacific Mfg. Co., Monadnock Building, San Francisco; factory at Santa Clara.

PIPE—WROUGHT IRON
A. M. Byers Co., Pittsburgh, Pa., and Financial Center Bldg., Los Angeles.
Reading Iron Co., Reading, Pa., and Balboa Bldg., San Francisco.

PLASTER
"Empire," manufactured by Pacific Portland Cement Co., Hunter-Dulin Building, San Francisco, Portland, San Jose and Los Angeles.

PLASTER BASE
"Celotex," Western Asbestos Magnesia Co. 25 South Park, San Francisco.

PLASTER REINFORCING
Wickwire-Spencer Steel Company, Inc., 144 Townsend St., San Francisco.

PLASTERING CONTRACTORS
A. Knowles, Call Bldg., San Francisco.
MacGruer & Company, 266 Tehama Street, San Francisco, and Pacific Mutual Bldg., Los Angeles.

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Alex Coleman, 706 Ellis St., San Francisco.
Gilley-Schmid Company, 198 Otis St., San Francisco.
Hateley & Hateley, 1710 Tenth St., Sacramento.
Herman Lawson, 465 Tehama Street, San Francisco.
Luppen & Hawley, 906 7th St., Sacramento
Scott Co., Inc., 243 Minna St., San Francisco.
Wm. F. Wilson Co., 240 Fourth Street, San Francisco.
Geo. A. Schuster, 4712 Grove St., Oakland.
W. H. Picard, 5656 College Ave., Oakland.

PLUMBING SUPPLY HOUSES
H. Mueller Manufacturing Company, 1072-76 Howard St., San Francisco.
Standard Pacific Fixtures, 349 Sutter St., San Francisco.
Clarence Drucker, manufacturers' representative, 307 Minna St., San Francisco.

PRESSED STEEL
Berger Manufacturing Co., 1120 Mission St., San Francisco.

PRESSURE REGULATORS
Vaughn-G. E. Witt Co., 4224-28 Hollis Street, Emeryville, Oakland.

PUMPING MACHINERY
Simonds Machinery Co., 816 Folsom Street, San Francisco; 520 East 4th Street, Los Angeles.

PUMPS—HAND OR POWER
Ocean Shore Iron Works, 558 Eighth St., San Francisco.
S. F. Bowser & Co., Inc., 425 Brannan St., San Francisco.

REFRIGERATORS
"General Electric," sold by the George Belsey Company, Architects' Building, Los Angeles; L. H. Bennett, Rialto Bldg., San Francisco.

REINFORCING STEEL
Soule Steel Company, Inc., Rialto Bldg., San Francisco, and Los Angeles.
Gunn, Carle & Co., Inc., 444 Market St., San Francisco.
Pacific Coast Steel Co., Hunter-Dulin Bldg., San Francisco.
United Alloy Steel Corporation, Canton, Ohio; Western Sales Office, Santa Fe Bldg., San Francisco.
Truscon Steel Company, Sharon Bldg., San Francisco.

ROCK AND GRAVEL
Pacific Coast Aggregates, Inc., General Office, Hunter-Dulin Bldg., 111 Sutter St., San Francisco.

ROOF MATERIALS
El Rey Products Co., 1633 San Pablo St., Los Angeles; 960 7th St., San Francisco; 65 Columbia St., Seattle; 850 E. Taylor St., Portland.
Kraftile Company, office and factory at Niles; 55 New Montgomery Street, San Francisco.
"Malthoid" and "Ruberoid," also "Pabco" 10 and 20 year roofs, manufactured by the Paraffine Companies, Inc., San Francisco, Los Angeles, Oakland, Portland and Seattle.
Gladding, McBean & Co., 660 Market St., San Francisco; 621 S. Hope St., Los Angeles; 1500 First Ave. South, Seattle; 454 Everett St., Portland; 15th and Dock Sts., Tacoma, and 22nd and Market Sts., Oakland.
N. Clark & Sons, 112-116 Natoma Street, San Francisco; works, West Alameda, California.
W. S. Dickey Clay Mfg. Co., 604 Mission St., San Francisco.
Jones Brothers Asbestos Supply Co., 500 Second St., San Francisco.

Courtesy Southwest Builder and Contractor

DETAILS, ARIZONA BILTMORE HOTEL, NEAR PHOENIX, ARIZONA

ALBERT CHARLES MacARTHUR, ARCHITECT

FRANK LLOYD WRIGHT, INVENTOR OF ART STONE BLOCK SYSTEM

WHAT'S WHAT
IN MATERIALS

WHO'S WHO
AMONG CONTRACTORS

ALPHABETICAL LIST OF ADVERTISERS ON PAGE 125

Johns-Manville Corporation of California, 159 New Montgomery St., San Francisco.
United Materials Co., Sharon Building, San Francisco.
Western Asbestos Magnesia Company, 25 South Park, San Francisco.
"Torfoleum" Insulation manufactured by Mailliard & Schmiedel, 203 California St., San Francisco.

RUGS AND CARPETS
W. & J. Sloane, 216 Sutter St., San Francisco.

SAFETY TREADS
Price-Teltz Company, 683 Howard St., San Francisco.
Gunn, Carle & Co., 444 Market St., San Francisco.

SASH CHAINS
American Chain Company, Inc., Bridgeport, Conn., and 425 Second St., San Francisco.
The Smith & Egge Mfg. Co., P. O. Box 1040, Bridgeport, Conn.; 506 American Bank Bldg., Los Angeles.

SCAFFOLDING FOR CONTRACTORS
Steelform Contracting Company, Monadnock Bldg., San Francisco; Edwards & Wildey Bldg., Los Angeles.

SEATING—SCHOOL, THEATER, CHURCH
Home Manufacturing Company, Inc., 552 Brannan St., San Francisco.
C. F. Weber & Co., San Francisco, Los Angeles, Phoenix, Ariz.; Reno, Nevada.

SELF-RELEASING FIRE EXIT DEVICES
Von Duprin, manufactured by Vonnegut Hardware Company, Indianapolis; sold by D. A. Pancoast Co., 605 Market St., San Francisco.

SHADES
William Volker & Co., 631 Howard Street, San Francisco; 2301 East 7th Street, Los Angeles.

SHEATHING AND SOUND DEADENING
Western Asbestos Magnesia Co., 25 South Park, San Francisco.

SHEET METAL WORKS
Forderer Cornice Works, Potrero Ave., San Francisco.

SHOW CASES
Home Manufacturing Company, Inc., 552 Brannan St., San Francisco.
Mullen Manufacturing Company, 64 Rausch St., San Francisco.

SOUND ABSORBING TREATMENT
Johns-Manville Corporation, 159 New Montgomery St., San Francisco.

SIGNALING & PROTECTIVE SYSTEMS
Garnett, Young & Co., 390 Fourth St., San Francisco.

STEEL FABRIC
Wickwire - Spencer Steel Corporation, 144 Townsend St., San Francisco.
Soule Steel Company, Rialto Bldg., San Francisco, and Los Angeles.

STEEL FORMS
Steelform Contracting Company, Monadnock Bldg., San Francisco; Edwards & Wildey Bldg., Los Angeles.

STEEL TANKS
Ocean Shore Iron Works, 55 Eighth St., San Francisco.

STEEL LUMBER
Genfire Steel Co., Sheldon Bldg., San Francisco; Builders' Exchange, Oakland.

STEEL SASH
Bayley-Springfield solid steel sash, sold by Gunn, Carle & Co., 444 Market St., San Francisco.
"Fenestra" Solid Steel Sash, manufactured by Detroit Steel Products Co., factory sales office, 526 Hunter-Dulin Bldg., San Francisco.
Berger Manufacturing Co., 1120 Mission St., San Francisco.
Michel & Pfeiffer Iron Works, 1415 Harrison St., San Francisco.
Truscon Steel Company, 74 New Montgomery St., San Francisco.
W. C. Lea, 653 South Clarence St., Los Angeles.

STEEL—STRUCTURAL
Bethelhem Steel Company, Pittsburg, Pa., Matson Building, San Francisco; Pacific Building, Los Angeles; L. C. Smith Building, Seattle; American Bank Building, Portland, Oregon.
Golden Gate Iron Works, 1541 Howard St., San Francisco.
Judson Pacific Company, C. F. Weber Bldg., Mission and Second Sts., San Francisco; shops, San Francisco and Oakland.
McClintic - Marshall Company, 621 Florida Street, San Francisco.
Herrick Iron Works, 18th and Campbell Sts., Oakland.
Pacific Coast Eng. Co., foot 14th St., Oakland
Pacific Coast Steel Co., Hunter-Dulin Bldg., San Francisco.
Palm Iron & Bridge Works, Sacramento.
Schrader Iron Works, Inc., 1247 Harrison St., San Francisco.
Western Iron Works, 141 Beale Street, San Francisco.

STONE
Indiana Limestone Company, Tribune Tower, Chicago, Ill., and Crocker First National Bank Bldg., San Francisco.

STORE FRONTS
Zouri Drawn Metals Company, Chicago Heights, Illinois. (Zouri Company of California, 1208 Howard St., San Francisco.)

STORE FURNITURE
Berger Manufacturing Co., 1120 Mission St., San Francisco.

STREET LIGHTING EQUIPMENT
Westinghouse Electric and Mfg. Co., East Pittsburgh, Pa., and First National Bank Bldg., San Francisco.

STRUCTURAL STEEL SHAPES
Bethlehem Steel Company, Matson Building, San Francisco; Pacific Finance Building, Los Angeles; L. C. Smith Building, Seattle; American Bank Building, Portland, Oregon.

SWITCHES AND SWITCHBOARDS
Drendell Electrical & Mfg. Co., 1345 Howard St., San Francisco.
Westinghouse Elec. & Mfg. Co., First Nat. Bank Bldg., San Francisco; general offices and Works, Pittsburgh, Pa.

TELEPHONES—AUTOMATIC, PRIVATE
Automatic Electric Inc., Chicago, Ill.; 1112 Pacific Finance Bldg., Los Angeles.

THERMOSTATS FOR HEAT REGULATION
Johnson Service, Milwaukee, Wis.; Rialto Building, San Francisco.

TERRA COTTA
N. Clark & Sons, 116 Natoma Street, San Francisco.
National Terra Cotta Society, 230 Park Avenue, New York, N. Y.

TILE—BATHROOM AND KITCHEN
Porstelain Tile Company, Ltd., 557 Market St., San Francisco, and 410 Madison St., Oakland.

TILE—RUBBER, CLAY, CORK ETC.
Rossman Corporation of California, 49 Geary Street, San Francisco, and Architects' Bldg., Los Angeles.
N. Clark & Sons, 112-116 Natoma Street, San Francisco; works, West Alameda, Cal.
Congoleum-Nairn, Inc., D. N. & E. Walter & Co., San Francisco, and Broadway Department Store, Los Angeles
Gladding, McBean & Co., 660 Market St., San Francisco; 621 S. Hope St., Los Angeles; 1500 First Ave. South, Seattle; 454 Everett St., Portland; 15th and Dock Sts., Tacoma, and 22nd and Market Sts., Oakland.
Kraftile Company, factory at Niles; 55 New Montgomery Street, San Francisco.
Mangrum-Holbrook, Inc., 1235 Mission St., San Francisco.
United States Rubber Co., 300 Second St., San Francisco, and 923 Los Angeles St., Los Angeles, Calif.

UNDERFLOOR DUCT SYSTEM
Johns-Manville Corporation, 159 New Montgomery St., San Francisco.

VALVES—PIPES AND FITTINGS
Clarence Drucker, Manufacturers' Agent, 307 Minna Street, San Francisco.
Grinnell Co., Fifth and Brannan Sts., San Francisco.
Mueller Company, 1072 Howard Street, San Francisco.
Sloan Valve Company, Chicago; E. C. Whalen, 954 Western Pacific Bldg., Los Angeles; W. J. Driscoll, 482 Monadnock Bldg., San Francisco; E. C. Fallein, U. S. National Bank Bldg., Denver; S. D. Cochran, L. C. Smith Bldg., Seattle, Wash.

VARNISHES
Bass-Hueter Paint Company, San Francisco, Los Angeles, Portland, Seattle.
The Paraffine Companies, Inc., San Francisco, Los Angeles, Portland and Seattle.
Hill, Hubbell & Co., Los Angeles, Oakland, Portland, Seattle and 160 Fremont St., San Francisco.
General Paint Company, Los Angeles, San Francisco, Oakland, Seattle, Spokane and Portland.

VENETIAN BLINDS
C. F. Weber & Company, 601 Mission St., San Francisco.

VENTILATING EQUIPMENT
B. F. Sturtevant Co., Monadnock Bldg., San Francisco; Los Angeles, Portland and Seattle.

VENTILATORS
"The Panelouvre," sold by M. E. Hammond, Pacific Bldg., San Francisco.

VITREOUS CHINAWARE
Standard - Pacific Plumbing Fixtures, 349 Sutter St., San Francisco; 919 W. Seventh St., Los Angeles; 1301 Fifth Ave., Seattle Wash.; 48 Fifth St., Portland, Ore.

WATERPROOF CEMENT
Victor Hydro-plastic waterproof cement, manufactured by Southwestern Portland Cement Co., 356 S. Spring St., Los Angeles.

WALL BEDS, SEATS, ETC. (See Beds).

WIRING SYSTEM
General Electric Company, San Francisco and all principal Coast cities.

WATER COOLERS
General Electric Refrigerator, L. H. Bennett, Rialto Building, San Francisco, and the George Belsey Company, Architects Building, Los Angeles.

WATER HEATERS
Apex Electric Hot Water Heaters, distributed by Sandoval Sales Co., 115 Jessie St., San Francisco.
Pittsburgh Water Heater Co. (gas), 478 Sutter St., San Francisco.
Ruud Heater Co. (gas), 245 Mason St., San Francisco.
Wesix Heater Company, Rialto Building, San Francisco.

WATERPROOFING
Johns-Manville Corporation, 159 New Montgomery St., San Francisco.
Master Builders Company, Mills Bldg., San Francisco; 426 So. Spring Street, Los Angeles, (also Seattle, Portland and Spokane.
The Paraffine Companies, Inc., San Francisco, Los Angeles, Oakland, Portland, Seattle.
Gunn, Carle & Co., 444 Market St., San Francisco.

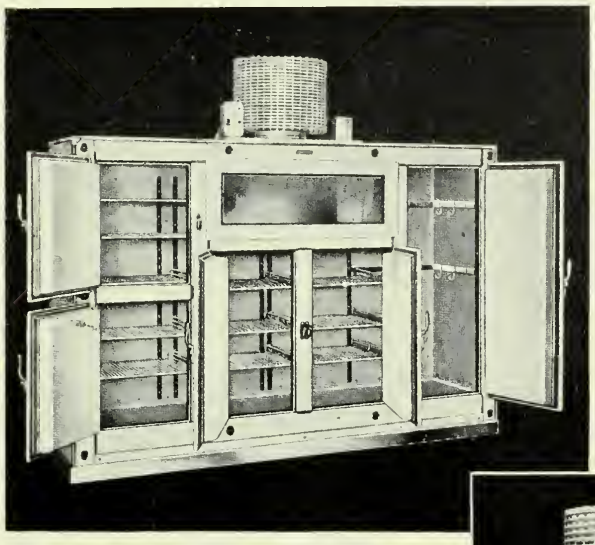
WATER SOFTENERS AND FILTERS
The Permutit Company, 440 Fourth Ave., New York City, and Balboa Bldg., San Francisco.

WATER SUPPLY SYSTEMS
Kewanee Water Supply System—Simonds Machinery Co., agents, 816 Folsom St., San Francisco; 520 East Fourth Street, Los Angeles.

WINDOW SHADES
William Volker & Co., 631 Howard Street, San Francisco; 2301 East 7th Street, Los Angeles.
W. & J. Sloane, 216 Sutter St., San Francisco.
D. N. & E. Walter & Co., 562 Mission St., San Francisco.

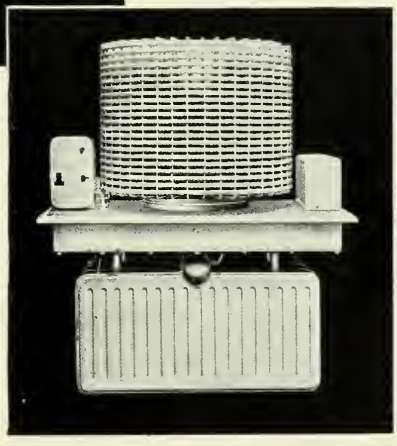
WINDOWS—STEEL, REVERSIBLE, ETC.
Campbell and Voigtmann Metal Windows, distributed by Fire Protection Products Company, 1101 Sixteenth St., San Francisco.
Crittall Casement Window Company, Detroit, Mich. Badt-Falk & Co., 74 Montgomery Street, San Francisco. F. T. Crowe & Co., 216 Walker Bldg., Seattle. R. H. Hoskins, 510 Hyde Bldg., Spokane. McCraken-Ripley Co., 61 Albina Avenue, Portland. F. T. Crowe & Co., 1177 Dock Street, Tacoma, Wash. Crittall Casement Window Co., 504 Union Insurance Bldg., Los Angeles.
Hauser Window Co., 1362 Harrison St., San Francisco.
Detroit Steel Products Co., Detroit, Mich.; Hunter-Dulin Building, San Francisco and Pershing Square Building, Los Angeles.
W. C. Lea, 653 South Clarence St., Los Angeles.

WIRING SYSTEM
Westinghouse Electric and Manufacturing Company, First National Bank Bldg., San Francisco; general offices and works, Pittsburgh, Pa.



Package Goods

From the smallest apartment model through the largest commercial refrigerator, the package goods principle prevails. The mechanism pictured below is placed on a cabinet just the right capacity for the unit. Here is a team — simplicity and common-sense.



Household
Commercial
Apartment

One principle is standard throughout General Electric Refrigerators. That is the hermetically sealed mechanism. This fundamental design was selected after 15 years of research in General Electric Research Laboratories.

The correctness of this mechanism is proved by over 350,000 users and not one has paid a dollar for service or repairs.

GENERAL ELECTRIC Refrigerator

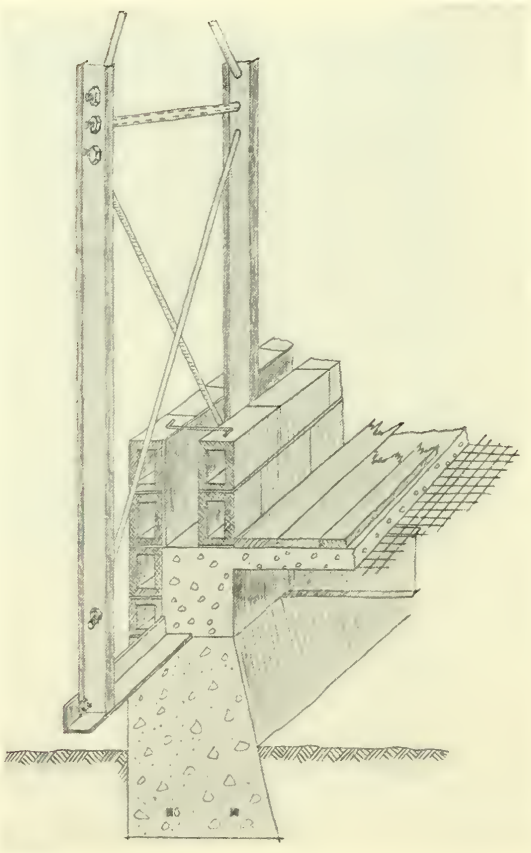
L. H. BENNETT
Rialto Building, San Francisco
Northern California and Nevada Distributor

The GEORGE BELSEY *Company*
Architects Building, Los Angeles
Southern California Distributor

Display Rooms and Dealers in all Principal Cities and Towns

Dickey MasTerTile

Reinforced with light structural steel



THIS new method of construction demonstrates the wide adaptability of Dickey MasTerTile. It was devised by W. C. Tait, Jr., and affords, with surprising economy, a type of residence and other small buildings that ideally meet California's needs.

It resists fire.

It is designed to withstand earth shocks.

It defies weather and decay.

It is proof against the depredations of wood eating termites that are becoming a problem in many sections.

And its cost is so close to the cost of good frame construction that forward thinking architects are investigating it with keen interest.

W. C. Tait, Jr. is building in St. James Wood, Piedmont, for J. H. L'Hommedieu Co., Inc., a residence that embodies his method of reinforcing Dickey MasTerTile with light structural steel beams. W. C. Tait, Jr., is the structural engineer and builder and Roper and Gill associate structural engineers. Miller & Warnecke are the architects and engineers. Victor DeVight is the masonry contractor.

We suggest an inspection of this house now while it is in the course of construction. If this is impracticable we shall be glad to see that interested architects are supplied with data, and also to furnish them with the Dickey Tile Manual, showing other approved methods of using this standard hollow tile for load bearing and panel walls and partitions.

DICKEY MASTERTILE

W. S. DICKEY CLAY MFG. COMPANY

116 NEW MONTGOMERY STREET, SAN FRANCISCO

ARCHITECTS' BUILDING

Fifth and Figueroa Streets, Los Angeles

DIRECTORY OF ARCHITECTS AND ALLIED INTERESTS

	Room
THE ARCHITECT AND ENGINEER (R. D. Bunn, Representative)	410
ADAMS, Charles G.	1016
BASHFORD, Katherine	710
BUILDING MATERIAL EXHIBIT	First & Mezz.
COATE, Roland E.	701
DeAHNA, Manfred	806
DODD & RICHARDS	606
EAGER, W. W.	505
HEAD, Chalfant	806
HUTCHASON, Arthur	1102
JOHNSON, Reginald D.	707
KELLEY, H. Roy	1102
KISTNER, Theodore C.	814
LOCKWOOD, Robert	512
L. A. ARCHITECTURAL CLUB	205
MARSH, Norman F.	516
MARSTON & MAYBURY	403
MITTRY, George	501
MOODY, Walter L.	312
MURRAY, Robert Dennis	502
NEWTON, H. C.	502
NOMLAND, Kemper	615
PARKER, Llewellyn A.	804
PHILLIPS, Ralph E.	603
POWELL, Herbert J.	516
RICHARD, William	607
SEDGLEY, Arlos R.	816
SIMPSON CONT. COMPANY	1007
SMITH, D. D.	516
SMITH, Glen Elwood	1210
STANTON, REED & HIBBARD	1107
STAUNTON, Wm. S. Jr.	806
WATSON, L. F.	903
WHARTON, Heth	802
WINSLOW, C. M.	1001
WITMER, David J.	903
WOOLLETT, Wm. Lee	802

ARCHITECTS FAVOR MODIFICATIONS

Seattle's limitation on building heights will probably be modified during the recodification of city ordinances that is now in progress. The Building Owners and Managers Association of Seattle, through Secretary Grosvenor Folsom, has been actively participating in the recodification work. The current bulletin reports that a committee from the Washington State Chapter of the American Institute of Architects has submitted its recommendations as to changes in the height limitations.

The proposed amendment, if adopted, would make the ordinance read:

"No fireproof building shall exceed a height of two and one-half times the width of the widest street on which the building abuts, except that buildings for occupancy may be erected above said height limit if the area of the lot occupancy does not exceed 70 per cent for the first story above the designated height; and the occupancy limit shall decrease 2 per cent for each succeeding story to an area not exceeding 25 per cent of the area of the lot, and if these portions of the building above the designated height limit are at least 25 feet from any lot line other than a street."

The present ordinance states that "No fireproof buildings shall exceed a height of two and one-half times the width of the widest street on which the building abuts, except that towers for occupancy may be erected above said height, if they are at least 25 feet from any lot line other than a street line; if they do not exceed an area of 25 per cent of the lot area, and if they do not exceed 60 feet in length or breadth."

W. E. SCHIRMER BUSY

New work in the office of W. E. Schirmer, Oakland architect, includes a three story steel frame and brick store and hotel to be built at San Pablo and Park avenues, Oakland, for the Emery Park Hotel Company, Inc., at a cost of $130,000; alterations to the market building at 13th and Grove streets, Oakland; residence for Lionel Wachs in Los Gatos; a Spanish residence in Piedmont for V. H. Owen and alterations to offices for a client at California and Commercial streets, San Francisco.

EXPLORATION TRIP

Natt Piper, Long Beach architect, and George Parker, Jr., now of the Huntington Palisades but formerly a president of the Long Beach Art Association, are on an exploration trip to the Cliff Dwellers ruins in southern Utah and before returning will visit southern Arizona and New Mexico, where they will study the old missions.

WANTS CATALOGS

J. Robert Harris, architect and engineer, 6715 Hollywood Boulevard, Hollywood, California, wishes to obtain manufacturers' catalogues, samples, etc., to complete an A. I. A. file.

WHAT more appropriate floor for this sun-flooded kitchen and breakfast-nook than these resilient squares of "U. S." Rubber Tile — with wainscoting to match? Richly colorful—these remarkable floors of resilient rubber combine decorative beauty with outstanding practicality. "U. S." Tile is durable, noisless, comfortable and easily cleaned. Its shining surface retains its beauty with minimum upkeep expense and labor. "U. S." Tile is the perfected result of more than a quarter of a century experience by the United States Rubber Company in building fine floors of rubber. Our latest architectural catalog in full color is now off the press. May we send you a copy for your files?

UNITED STATES RUBBER COMPANY

300 SECOND STREET SAN FRANCISCO, CALIF.

Program of the Second Annual Convention
STATE ASSOCIATION OF CALIFORNIA ARCHITECTS

BEVERLY HILLS HOTEL
BEVERLY HILLS, CALIFORNIA

FRIDAY AND SATURDAY, OCTOBER 11-12, 1929

FRIDAY, OCTOBER 11th, 1929

9:30 A. M.-10:30 A. M.—Registration of Delegates.
Meeting of State Executive Board.

10:30 A. M.-12:10 P. M.—OPENING SESSION
State Executive Chairman A. M. EDELMAN, *Chairman.*
Chairman's Address.
Address of Welcome—J. C. AUSTIN, *President,* State Board Architectural Examiners, Southern District, and Vice-President Los Angeles Chamber of Commerce, introducing EDWARD E. NEWMAN, President Beverly Hills Chamber of Commerce.
Appointment of Committees:
Credentials.
Resolutions.
1930 Convention.
Report of Executive Board.
Discussion from the Floor.
Report of Secretary-Treasurer.
Announcements.
Adjournment.

12:30 P. M.-2:00 P. M.—LUNCHEON
HARRIS C. ALLEN, *President,* Northern California Chapter, American Institute of Architects, *Chairman.*
Architectural Club Quartet:
GEORGE P. HALES, HAROLD E. SHUGART, T. W. JOHNS, R. A. CURRY.
Resume of Work on Uniform Building Code, EDWIN BERGSTROM, *Editor-in-chief.*
Adjournment.

2:15 P. M.-5:15 P. M.—AFTERNOON SESSION
A. M. EDELMAN, *Chairman.*

The Ideal Established Architect ..... H. ROY KELLEY
The Ideal Young Architect ..... SUMNER P. HUNT
The Ideal Contractor ..... ALBERT J. EVERS
The Ideal Editor ..... WILLIAM I. GARREN
The Ideal Client (20 minutes) ..... RUPERT HUGHES
The Ideal City (20 minutes) ..... ROB WAGNER

Architectural Club Quartet.
FILM: "THE FUTURE DEVELOPMENT OF WASHINGTON."
CHAS. H. CHENEY, *Chairman A. I. A.,* Committee on City and Regional Planning.

SATURDAY, OCTOBER 12th, 1929

9:30 A. M.-12:00 Noon—CLOSING SESSION
Executive Vice Chairman CHAS. F. B. ROETH, *Chairman.*
Report of Public Information Committee:
HARRIS C. ALLEN, *Chairman,* Northern Section
CHAS. H. KYSON, *Chairman,* Southern Section
Discussion from the Floor.
Resolutions.
Unfinished Business.
New Business.
Selection of 1930 Convention City.
Address: "THE NEW CONTRACTORS' LAW AND ITS RELATION TO THE ARCHITECT"—WM. SIMPSON.
Address: "THE NEW ENGINEERS' LAW AND ITS RELATION TO THE ARCHITECT"—DONALD M. BAKER, *Consulting Engineer.*
Report of Legislative Committee:
WM. RICHARDS, *Chairman,* Southern Section
Discussion from the Floor.
Adjournment.

2:30 P. M.-4.30 P. M.—SIGHT SEEING TOUR
Courtesy Beverly Hills Chamber of Commerce.

4:30 P. M.—BARBECUE AND ENTERTAINMENT—UPLIFTERS' CLUB.
WM. J. DODD, *In Charge.*

NOTE: Ladies included on Saturday Afternoon and Evening.

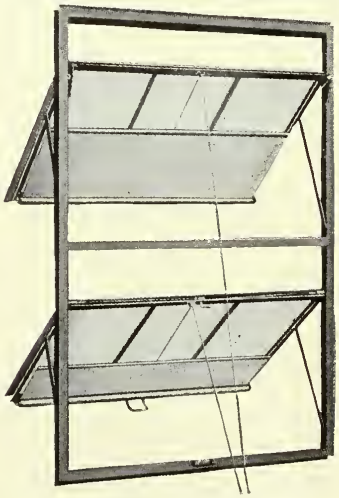
Report of Professional Betterment Committee:
LESTER W. HURD, *Chairman,* Northern Section
VINCENT PALMER, *Chairman,* Southern Section
Discussion from the Floor.
Resolutions.
Report of Educational Committee:
E. GEOFFRY BANGS, *Chairman,* Northern Section
SUMNER M. SPAULDING, *Chairman, Southern Section*
Discussion from the Floor.
Resolutions.
Unfinished Business.

Addresses—EARTHQUAKE RESISTANT CONSTRUCTION:
RIGID TYPE, HENRY D. DEWELL, *C. E.*
ELASTIC TYPE, H. J. BRUNNIER, *C. E.*
Adjournment.

6:30 P. M.—BANQUET, THEME "IDEALS"
CARLTON M. WINSLOW, *Chairman.*
JOHN J. DONOVAN, *Toast Master.*
Music—Courtesy Beverly Hills Hotel.
Introduction of:
HONORABLE FRANK C. WELLER, *Senator.*
HONORABLE JAMES C. CRAWFORD, *Assemblyman.* Introducers of Bill Regulating the Practice of Architecture.
HONORABLE JAMES F. COLLINS, *Director,* Department of Professional and Vocational Standards.
BERNARD S. WAGER, *Attorney* for State Board of Architectural Examiners, Southern District.—Our New Act.

The following Toasts limited to 5 minutes, except as noted:

TRUSCON
DONOVAN
AWNING TYPE
STEEL WINDOWS



When fully drawn the individual shades on each sash act as awnings.

For Daylighting and Ventilation of
SCHOOLS, OFFICES, EDUCATIONAL AND INSTITUTIONAL BUILDINGS

Movement of lower sash operates upper sash —no window poles required. Sunlight is reflected from shades on open windows and is diffused — no awnings required. Truscon Donovan Awning Type Windows are of high quality throughout, but due to large production are moderately priced.

Full information, quotations and literature on request.

TRUSCON STEEL CO., YOUNGSTOWN O.
PACIFIC COAST PLANT—LOS ANGELES

Pacific Coast Sales and Engineering Offices:
San Francisco, Los Angeles, Seattle, Portland
The Universal Window Company, 1916 Broadway, Oakland, Calif.
Pacific Coast Distributors

Upper two sash open — bottom sash closed. | Bottom sash open — upper two sash closed. | Upper sash open — lower sash closed. | Upper sash closed — lower sash open.

GLADDING, McBEAN EXTEND OPERATIONS

Extending its field of operations into eastern Washington and Idaho, Gladding, McBean & Company, clay products manufacturers, announce purchase of the American Fire Brick Company, whose headquarters are in Spokane, Washington.

In making public news of the purchase, H. B. Potter, secretary of the company, said that the price paid for the American Fire Brick properties was in the neighborhood of a quarter of a million dollars. Plants of the northern concern comprise a sewer pipe, face brick and hollow ware plant at Mica, Washington, seventeen miles southeast of Spokane, and a common brick plant, offices, warehouse and sales yards in Spokane.

The American Fire Brick Company, Mr. Potter stated, is one of the oldest established and soundest concerns of its kind in the Northwest. Started several years ago with a capitalization of roughly $13,000, it has steadily grown until, at the time of its acquisition by Gladding, McBean, its physical assets alone were estimated to be worth in the neighborhood of $300,000.

Output of the unit, it is forecast, will be used to supply the Oregon, Washington, Montana, Idaho and British Columbia markets. At present much of the output of the Gladding, McBean Seattle plant is shipped over the mountains to the Spokane area and western Idaho, involving heavy handling and freight charges. The new unit will be operated under the Gladding, McBean name.

NEW HAWS FOUNTAIN

A new idea in home conveniences is a lavatory fountain drinking glass manufactured by Haws Sanitary Drinking Faucet Company of Berkeley, designed to replace the bathroom drinking glass. Two models are available, one for use on lavatories equipped with a combination hot and cold faucet and another for lavatories not so equipped. The obvious advantage of the device lies in its being more sanitary than the customary drinking glass, which is not only a source of possible infection but is subject to frequent breakage.

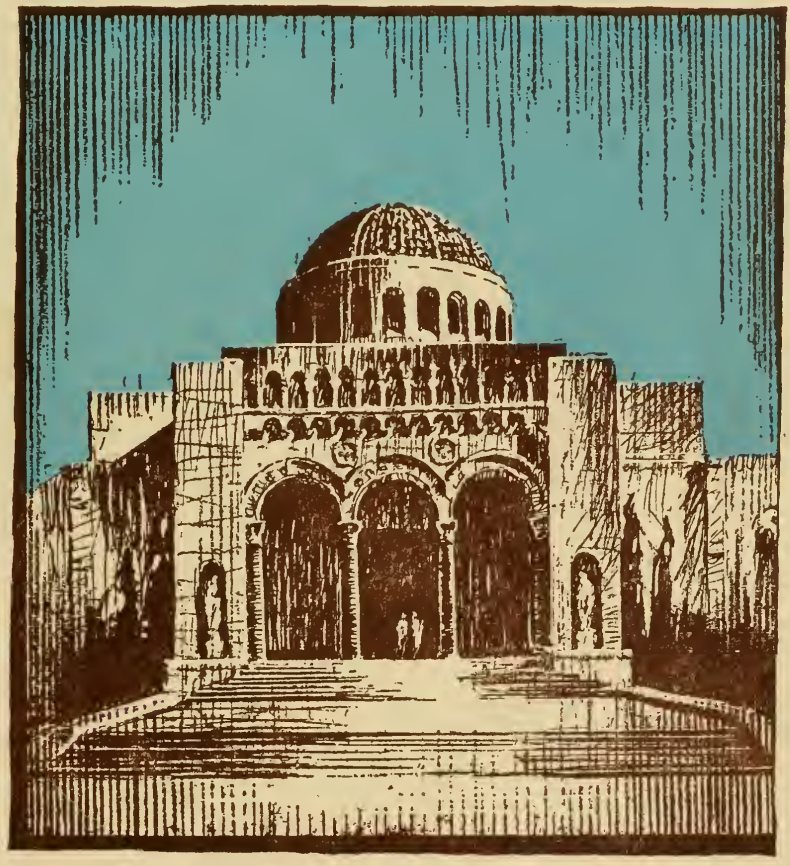
BUYS MOVIE ACTOR'S HOME

Sale to Alfred F. Smith of the former home of Charles Ray on Canyon drive in Beverly Hills is announced, the new owner to take possession shortly. While the consideration was not named, the dwelling is said to be among the most elaborate erected in Beverly Hills for members of the motion picture colony. Mr. Smith is chairman of the executive committee of the Monolith Portland Cement Company.

MERCANTILE BUILDING

The S. and W. Brand Stores Inc., will erect a six story Class A mercantile building on South Broadway, Los Angeles. The estimated cost is $600,000.

The ARCHITECT AND ENGINEER



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Who's Who in this Issue

JOHN BYERS, architect of several interesting adobe houses shown in this issue, was born in 1875 at Grand Rapids, Michigan. He was graduated from the University of Michigan in 1898 with a degree in Electrical Engineering. He was doing post graduate work at Harvard University when sent to France by the United States Commission at the Paris Exposition. From France Mr. Byers went to Montevideo in Uruguay, where, for something over a year, he taught French and English in the North American Academy. Returning to the United States, he became part owner in a military academy. After teaching for awhile Mr. Byers entered the building field, his first adobe house being in Santa Monica for Harry Johnson. This house was the initial attempt to revive the use of adobe as a recognized building material in Southern California. Mr. Byers' most notable buildings are perhaps the Brentwood Country Club and the Miles Memorial, both in Santa Monica.

CHARLES A. KOFOID, Professor of Zoology in the University of California and Chairman of the Department, writes in this issue of an attack made by termites on a city building in Santa Barbara, with E. A. Garland as co-author. Mr. Kofoid is a member of the National Academy of Sciences and of other scientific societies, also of the San Francisco Bay Marine Piling Committee, organized in 1922 in cooperation with the National Research Council and the American Wood Preservers' Association. He is Chairman of the Advisory Committee of the Termite Investigations Committee and also of the Biological Subcommittee of that enterprise.

E. A. Garland's engineering experience has been principally in irrigation and hydraulics in which lines he is an accepted authority.

FREDERICK B. FORBES, who writes on adobe construction best suited to resist earth stresses, is building inspector in the city of Beverly Hills, California. He is considered an authority in his work and is reported to be well informed on matters pertaining to building construction and building laws.

ALBERT F. ROLLER has been practicing architecture in San Francisco for the past four years. Prior to that time, Mr. Roller worked in the offices of Coxhead & Coxhead and Ward & Blohme, both San Francisco firms. He was also employed by Ripley & Davis, distinguished eastern architects. Buildings designed and completed by Mr. Roller include the San Jose mausoleum, illustrated in this issue, building for the Guarantee Building and Loan Association, Oakland, Pacific States Savings Bank building, San Diego and the Sommer & Kauffman building, San Francisco, the latter under construction.

IRVING E. PERRIN, M. E., is sales manager of the Pacific Coast Engineering Company, Oakland. After attending public schools in Richmond and Woodland, California, where Mr. Perrin attended high school, starring on the Woodland High School football team, then state champions, Mr. Perrin was employed by the Standard Oil Company where he learned his trade as an erecting and marine machinist. During the World War, Mr. Perrin enlisted in the infantry and was sent to Camp Lewis, Washington. While there he was appointed a non-commissioned officer and in addition to his activity in other sports played half-back with the football team which was then coached by the famous "Wee" Coyle of University of Washington and Jim Evenden of the Oregon Aggies. Mr. Perrin was a member of the famous 363rd Regiment, "San Francisco's Own," and took part in four major offensives in France and Belgium. After returning from France, he took a position with the shipping board as inspector of turbine machinery and later was assistant to the marine superintendent of the Pacific Coast Shipbuilding Company.

JAMES W. PLACHEK, architect of the new Berkeley Public Library building, was born in Chicago, Illinois, January 6th, 1885. Mr. Plachek began his professional career in the office of J. E. O. Pridmore in Chicago. With other architects he was sent to San Francisco by the City of Chicago to investigate building conditions following the earthquake and fire of 1906. Mr. Plachek was employed in the State Department of Architecture, Sacramento, on plans for new institutions to replace those destroyed in 1906. He later worked in the City Architects' office in San Francisco, and the office of W. H. Weeks, San Francisco architect. Mr. Plachek opened an office in Berkeley in 1912 and has designed a number of the prominent buildings there including schools, firehouse, branch public libraries, Federal Land Bank and the San Mateo Congregational church. Mr. Plachek is a member of the California State Board of Architecture, Northern District.

FREDERICK L. ROEHRIG, architect for the Los Angeles Department of Water and Power, is a graduate of Cornell University, Ithaca, N. Y. After practicing in the east, Mr. Roehrig came to California and in 1885 opened offices in Los Angeles and Pasadena, where he conducted a general architectural business up to the time of the World War. Since then Mr. Roehrig has been architect for the Los Angeles Department of Water and Power.

CONVENTIONS AND EXPOSITIONS

November to March—Exhibition of Sculpture, Legion of Honor Building, San Francisco.

November 1—15—Architectural Exhibition of the Philadelphia Chapter of the A. I. A. and the T-Square Club, John Wanamaker Store, Philadelphia.

November 1—15—Exhibition of work by Witmer & Watson, Architects Building, Los Angeles.

November 9—16—Architectural and Industrial Arts Exposition, Memphis, Tennessee.

November 13—16—American Institute of Steel Construction, Inc., Biloxi, Miss.

January 18—30—International Exhibition of Building Trades and Allied Industries, Brussels, Belgium.

January 27—31—International Heating and Ventilating Exposition, Commercial Museum, Philadelphia.

March—April—International Exhibition of Housing and Modern Industrial Applied Arts. Nice, France.

May 20—October 1—Exhibition of Modern Industrial and Decorative Arts, Stockholm, Sweeden.

May 21 23—American Institute of Architects, sixty-third convention, Mayflower Hotel, Washington, D. C.

June—Pan-American Congress of Architects, Rio de Janeiro, Brazil.

September—International Architects' Congress, Budapest, Hungary.

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ADOBE HOUSE

John Byers of Los Angeles has done more to revive adobe construction in California than any other architect. On the back of this page is an example of Mr. Byers' work. The Johnson house at Brentwood Park is outstanding in its loveliness. It is built of adobe brick.

Photo by Charles Roberts

ADOBE HOUSE FOR HARRY JOHNSON, ESQ., BRENTWOOD PARK, CALIFORNIA

JOHN BYERS, ARCHITECT

The ARCHITECT AND ENGINEER

VOLUME XCIX NOVEMBER, 1929 NUMBER TWO

ANCIENT ADOBE for MODERN HOMES

By Marc N Goodnow

WHILE every permanent material of which houses are built may have written its own romance down through the ages, it is doubtful if any can lay claim to a more romantic past than the very simple, sun-baked mud brick commonly known as adobe, or, as the Mexicans still call it, the *adobero*. Humble beyond words, this crude, strong earthen block once played a highly significant part in the rearing of a Christian civilization on the Pacific slope. Moulded by the hands of devout Indian workmen, it became the chief support for the walls of the historic chain of California missions erected by Fra Junipero Serra and his band of holy men, as well as for the enclosure and shelter of those early rambling haciendas where black-eyed senoritas and dashing dons played the game of love.

PORCH ARCADE, BAKER RANCH HOUSE, SAUGUS
Charles H. Peters, Architect

Though the missions of the good padres reflect in spirit and design the characters of their builders, one cannot be charged with blashphemy who attributes their permanence and much of their architectural feeling to the simple art of the zealous convert to the faith. For to the skillful hands of these

patient artisans was entrusted the mixing and moulding of the adobe bricks and the warm red tiles that formed the principal constituents of house and edifice alike. To them was given the task of creating these monuments to which we look today for much of our inspiration in domestic architecture in the southwestern states.

a number of such houses that have been given back their youth with repaired chinks, rebuilt portions of walls and roofs, the support of fallen keystones and lintels and completely new dresses of white stucco.

While Monterey may boast of more good old adobes than any other city of the state,

CASA ADOBE FLORES, RANCHO SAN PASQUAL, SOUTH PASADENA
Photo by Hiller before Restoration

As the poetry and romance of the mission days faded, however, the lustre of the adobe house dimmed into the commonplace, its identity was almost completely lost in the flood of conglomerate styles and periods. And the missions fared little better until California regained her architectural consciousness and set about their restoration, when the adobe houses became also the subject of friendly attention. Now there are

here and there throughout California one comes upon these old beacons of a former period and feels repaid for his visit. Some generous soul has responded to the call of romance, and the house, with all its historic characteristics quite discernible, stands quaint and brilliant—a regenerate body radiating its old time spirit of traditional good breeding.

The term "adobe style" has more than

once been associated with these houses, but a close study of the architectural factors involved will show a very close resemblance to the Mexican or the Spanish, especially the ranch type of Spanish, and that any line of distinction is drawn with difficulty and uncertainty. There were, of course, very thick walls, with plain, hand-smoothed surdows, and an ornamental iron gate at the entrance of his house or garden. If his home was of the two story type, he included a balcony with wooden spindles, unless his purse could be made to cover a railing or grille of ornamental iron. Also, he used polychrome tiles, for even that art had been brought to Mexico and Spanish California

CASA ADOBE FLORES, RESTORED BY MRS. CLARA E. NOYES
Carleton M. Winslow, Architect

faces. Also, there was the flat, red-tiled roof, though in the north shingles or shakes were widely used, with such additional features as squat chimneys and sometimes a tower, probably of Moorish precedent. And, of course, the inner or private garden.

Even the builder of the very humble adobe house was artist enough to add to his plain surfaced walls such ornamental features as iron grilles or rejas across his windows by the padres and their consorts.

Inside the house there were at first no changes from the Spanish type, although certain features soon began to undergo a development. Perhaps the most notable was the fireplace which now became broad and deep, as in the early American manner, with the hearth serving for cooking, baking and warming.

The restoration movement begun ten

years ago, which created a new warmth of feeling toward the old adobe house, is also responsible for the number of new adobe houses being erected in cities and on ranches of California and adjoining states where soil is suitable for the manufacture of adobe bricks. In many inland cities the adobe has been found to be both practical and artistic. The community of Adelanto, on the edge of the Mojave desert, is practically an adobe city, the thick walls required in the construction of the houses being regarded as particularly valuable as a protection against both heat and cold. John Byers, architect of Santa Monica, whose earlier training was among the Spanish peoples of South America, has designed and erected no less than thirty such homes in Southern California. These examples, together with those that may be found in large numbers in Arizona, New Mexico and Texas, give some basis for the statement that adobe is still a form of house construction and, where properly done, a very charming form.

In the hands of a trained craftsman, this type of building material lends itself to picturesque effects of traditional and historic beauty. Because of the character of the bricks themselves, it is, of course, less prim and precise; but there is an easy plasticity about it that makes it particularly suitable to the Spanish type of architecture. It is, also, a facile medium, offering possibilities at times not found in more commonly used materials. It seems to call for dignity rather than temperamental jazz in its expression, but for all that it is a spontaneous medium, sometimes evoking a surprising quality of humanness. At any rate, good adobe houses grow old gracefully and beautifully. In that respect they may act as an antidote for some of the less desirable modern building tendencies.

RANCH HOUSE OF ROY A. BAKER, SAUGUS, CALIFORNIA
Charles S. Peters, Architect

With the revival of interest in the use of adobe bricks there have come some slight changes or improvements in the methods of their manufacture. The primitive Mexican or Indian churned his "muck" or mixture of mud and straw with his bare feet, but it is now more common and less expensive to make the mix with a hoe, or even a motor-driven mixing machine.

ADOBE RESIDENCE OF MRS. F. H. DORHAM, SANTA MONICA
John Byers, Architect

The character of the soil, of course, has much to do with the strength and general serviceability of abode bricks. As a matter of fact, a wide variety of soils, except very light sandy soils and very heavy clay soils, may be used for construction purposes. There are many different kinds of soils in the Southwest where adobe construction is practiced and all of these are adaptable to this use.

It is principally necessary that the soil be the kind that will dry hard after puddling with water. Very sandy soils will crumble as they dry and very heavy clay soils will crack and break. Black, heavy gumbo soils, so frequently referred to as adobe soils, generally are not suitable for making adobe bricks as they too frequently crack when dry. A loam soil with some clay in it is said to be better. A heavy clay soil may sometimes be prevented from cracking by mixing in sand when working with water. An experienced adobe maker will either know the soil at a glance or make sure of his results by experimenting before the actual work on the job begins.

One of the advantages of using adobe lies in the fact that it may be taken from the site of the house itself. Usually it is found to be more expensive than other forms of building material when the cost of hauling must be added to its manufacture. When the site offers available material, however, the manufacture of the brick becomes one step in the process of excavating.

THE AZUSA ADOBE (RESTORED) RANCHO SANTA FE, CALIFORNIA

In the preparation of adobe, water is allowed to run for several hours on the site, and after the ground has been thoroughly soaked the workmen chop the surface with hoes. About six inches of the surface is thus thoroughly puddled and shoveled into piles for working up into brick material, while the water is turned back again for the next layer.

RANCH HOUSE FOR KEMPER CAMPBELL, VICTORVILLE, CALIFORNIA
John Byers, Architect

The raw material or mud from the site is then thoroughly mixed with short-length straw or manure. The manure is not really such, but is more properly the sort of wet straw mixed with manure which might be thrown out of the horse stalls in the morning. If this is not available, dried grass may be used as a binder.

The word "adobe" is derived from "adobar," meaning to knead, which is a process that takes place with the mixing of straw or grass with the wet mud. An "adobero" is one who kneads, and the frame in which he moulds the adobe bricks goes by the same name. The frame or mould has two compartments without a bottom and is placed on smooth ground and then filled with the adobe mud which is packed or kneaded by hand into the frame. It is brought to the adobero on the stretcher or "pariguela."

The frames vary, of course, according to the size of the bricks to be made, but generally they are constructed of two compartments and are lined with metal to receive adobes measuring 4x14x20 inches. If the mud is not too wet the frame is slipped from the brick and used for moulding the next set of two. The Mexican workman ex-

pects the owner to supply these frames, as well as all other tools, and makes an habitual practice of coming to work with nothing but a pair of hands.

The bricks are allowed to dry in the sun for from four to ten days, until hard enough to turn upon their edges. This process the Mexican calls "cantear" (cant-ee-are) and it is rather a delicate one, too. It means tilting the brick one against another to prevent their falling down and at the same time removing any lumps of dirt that may cling to their under side. In this position there is danger of loss in the event of a continued rain, for the base of the adobe would be undermined and the bricks would fall and break. For this reason the adobes are usually not turned upon edge until there is ample assurance of dry weather for two or three days, or else a canopy or other water-shed is provided.

In a week's time the brick are ready to be ricked, still on edge, for the adobe has very little tensile strength and breaks easily under a slight weight even when dry if not well supported over its entire area. When laid in mortar, the adobe can withstand a load of 1800 pounds per square foot. Some builders even claim that when properly made and cured the bricks withstand the same pressure that common clay bricks are often subjected to without giving way.

RANCH HOUSE FOR KEMPER CAMPBELL, VICTORVILLE, CALIFORNIA
John Byers, Architect

For the work of making and drying the adobes, the Mexican in the Southwest usually receives four cents a brick, with an additional cent for stacking them in ricks and covering them. His count for the day's work is in adoberos: 200 adoberos, for ex-

ample, which is a fair day's work, will equal 400 bricks.

One who has designed and built many adobe houses of one and two stories builds his walls 20 inches thick on a solid concrete foundation, laying the adobe bricks in cement mortar. At the second story line a reinforced concrete girder is laid all around the building. This girder is in the shape of the letter "L," the vertical portion being about 14 inches square to carry the weight of the second story wall, the horizontal portion being 6 inches wide and 4 inches thick to form a base for a 2x6 inch redwood plate supporting floor joists 2x8 inches. The continuation of the wall above the second floor is 14 inches in width, the top of which is covered with a redwood plate 2x12 inches, bolted every 6 feet with ½ inch x 10 inch bolts. This type of construction is sturdy and has never yet given trouble.

A sufficient time is given the wall to dry before it is covered with twenty gauge wire nailed to the adobe bricks with eight penny nails and the stucco coat applied. The interior walls may be furred or treated directly with hardwall plaster. Furring, as a matter of fact, provides the same insulation on adobe that it does on brick, and is usually done in the better houses. The old Mexican way was to slick up both exterior and interior walls with a coating of mud, following it with a treatment of linseed oil and possibly crude kalsomine or whitewash. This method does not of course meet modern needs.

Before the plaster is applied, however, the walls should be allowed to dry thor-

RANCH HOUSE FOR KEMPER CAMPBELL, VICTORVILLE, CALIFORNIA
John Byers, Architect

Photo by Charles Roberts

RANCH HOUSE FOR KEMPER CAMPBELL, VICTORVILLE, CALIFORNIA

JOHN BYERS, ARCHITECT

LIVING ROOM, RANCH HOUSE FOR KEMPER CAMPBELL, VICTORVILLE
JOHN BYERS, ARCHITECT

oughly a matter of from one to two weeks, and provision made for plumbing and wiring. Pipes can be set in the walls by carving out grooves to fit them into; they are then covered with plaster and hidden as effectively as in any other type of construction. Electric wires are best carried in a pipe embedded in the wall and covered with plaster.

There is an absence of wood trim in most adobe houses for the type is itself severely plain. Door and window casings are unnecessary and really out of place. A two-by-six frame set in window or door opening is all that is needed for attaching doors and windows. Picture mouldings and mop boards are impractical as nails do not hold well in adobe unless they are of the very large sizes.

The writer recently visited a splendid type of Spanish ranch house built of adobe bricks reinforced with regular deformed reinforcing bars. This is the home of Roy A. Baker at Saugus, California. The adobe bricks for this house were made by machine and after the baking period were dipped in a solution of asphaltum thinned down with gasoline to a consistency of house paint to render them impervious to water. In their manufacture, the tops of the bricks were made slightly concave, while the centers were grooved to receive the reinforcing rods. Also, they were cut back the width of a lath at top and bottom to give them additional space for mortar joints.

These adobes were laid in cement mortar and the exterior was plastered with three coats of cement stucco troweled to a typical Spanish finish. The interior was plastered with hardwall plaster against the adobe brick themselves. Their surface, together with the asphaltum, gave a perfect bond.

As to the practicability of adobe construction in the Southwest there can be little doubt. And if one is to believe reports of the United States Department of Agriculture there is just as much practicability in the use of adobe in Washington, D. C., New Jersey, Missouri, Indiana, Illinois, Canada, Kansas and North Dakota, where test houses have been constructed with satisfactory results. Even in mountainous or hillside locations adobe can be used, provided there is the proper soil and opportunity to anchor the foundations securely.

Wherever it may be located, the adobe house, at least in California, is redolent of the soil. As a native form of construction, it may embody not only safety, economy and permanence, but artistic merit and suitability to the setting. The determining factors are, principally, sound workmanship and adherence to those traditions that surround the material itself.

EARTHQUAKE RESISTING ADOBE CONSTRUCTION

By: Frederick B. Forbes
Building Inspector, Beverly Hills

I HAVE recently read several articles in the current magazines advocating the use of adobe construction. Now there are a number of ways in which adobe may be utilized to form the walls of buildings, and I do not agree with some of the authors on their particular methods of using it.

The generally accepted method is the old California style of thick walls formed of sun dried bricks laid in mud. Such walls would be allowed to be constructed only outside of the limits of the principal cities, as most of the Building Codes rightly prohibit this class of construction on the grounds of safety.

It has been repeatedly demonstrated in every earthquake that adobe bearing walls, regardless of their thickness, are almost certain to collapse. The ruins of the Missions up and down the Coast and the buildings in the zone of the recent Santa Barbara earthquake prove this. However, by modifying the construction it is possible to get all the temperature resisting advantages and the architectural appearance of adobe and still have it safe.

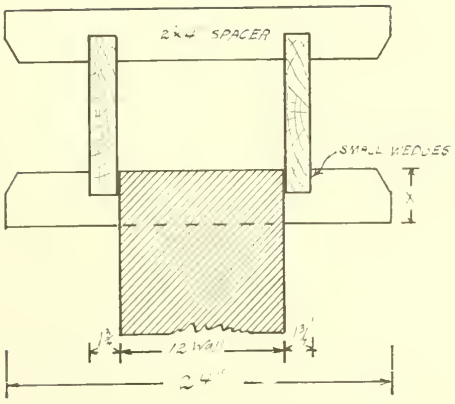
To those of you who are familiar with the Central American use of "horcones hinchados con barro" the following will be superfluous as there is no originality claimed for the idea. The author was brought up in the State of New Mexico and spent some years as a mining engineer in Central America. While there he noted the adobe buildings that were successfully resisting the frequent earthquakes that visit those countries. These buildings had decay resisting hardwood frames to carry the weight of the roof, and the adobe walls were only filler walls. The problem is to adopt this scheme to our conditions without too much expense.

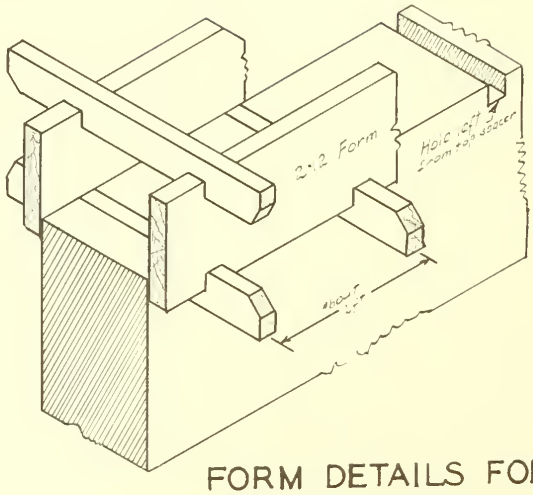
Three available materials were considered for the frame: steel, reinforced concrete, and creosoted wood. The first two are impractical for ordinary house construction. They require an engineering design and skilled labor in the erection; this is not true of the wood.

Creosote impregnated (not painted on the outside) timbers cost about fifty-four dollars per thousand board feet; for a small house with a perimeter of one hundred and fifty feet, about nine hundred board feet would be needed, a cost of forty-eight dollars. A good part of this could be saved by reducing the thickness of the walls from eighteen inches to twelve.

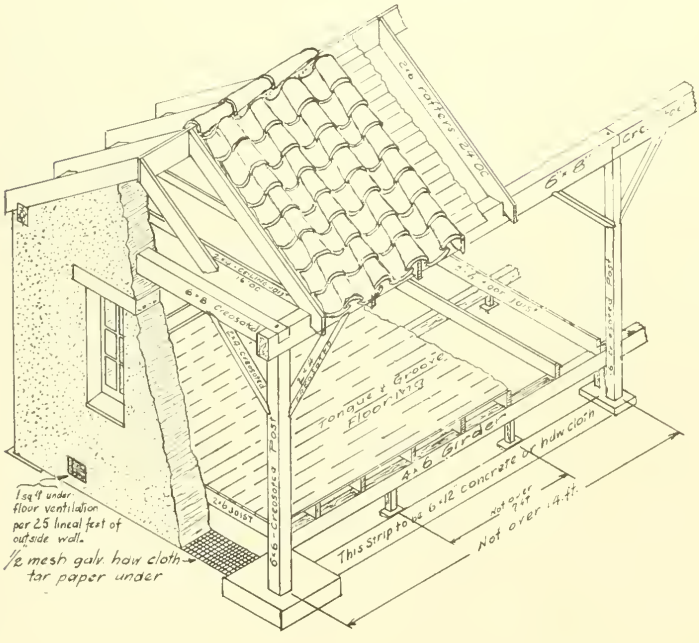
The strength of the frame was computed on an "earthquake factor" of ten per cent. This requires six inch by six inch posts not over fourteen feet on centers and knee braced by two inch by four inch braces two feet down from the top and the same out on the beam. All corners to be mitred and drift bolted. The illustrations show this better than an explanation.

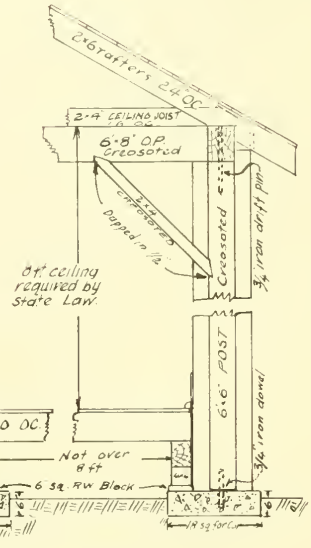
Now for the filler walls. Here is a choice of two ways to build them: by the California style of bricks laid in mud or by a system of forms such as is done in concrete work. Which of these is best depends largely upon the climate. The shrinkage in adobe continues until it is entirely dried out, so the form method is only suitable for a hot dry location. The author saw a two story adobe house, without frame, constructed by the form method in New Mex-





FORM DETAILS FOR POURING WALLS


2x6 Rafters 24" OC
6x8 Girt
6x8 Creosoted Post
Tongue & Groove Floor Ing
4x6 Girder
This Strip to be 6:12 Concrete
Not over 14 ft.
1 sq ft under floor ventilation per 25 lineal feet of outside wall.
½ mesh galv. hex cloth tar paper under



SECTIONALIZED VIEW SHOWING CONSTRUCTION

DETAILS AND SECTION SHOWING METHOD OF ADOBE CONSTRUCTION

BY FREDERICK B. FORBES

ico in 1908. It was stuccoed on the outside and has developed fewer cracks than the ordinary wood frame stucco house of equal age. The secret lay in three things: first, a dry climate; second, making each "lift" only about ten inches thick; and third taking about three months to pour the walls. For most people who wish to get the house finished as soon as possible, the brick method will be more suitable although more expensive. There are several ways to mix the adobe; the easiest is to plow up a small area, bank it, turn in the water and drive horses back and forth through it. If no horses are handy other ways will have to be found.

For those who are interested in the form method, a detailed drawing is given. This is self explanatory. The planks are held on the "two by four" spacers in the walls and filled with the mixture of adobe and straw. When this has hardened, the planks and top spacers are removed; the spacers turned over in the slots left in the wall, the planks placed on them, the bottom spacer knocked through the wall and used again for the top. The holes are later patched up. It is usually necessary to use small wedges in the spacers to hold the planks as the slots become worn.

Foundations. If you live in the city you will probably be required to put in the standard concrete foundation for a masonry wall. If you live in the country where there are no building laws, you can set the six inch by six inch posts, as shown in the illustration, on three quarter inch iron dowels set in concrete piers, eight inches thick and eighteen inches square for the corner ones, and eighteen inches square for the ones midway. These are placed so the posts carrying the floor girders also rest on them. Between the piers, clean off the ground, lay strips of tar paper the width of wall, to prevent dampness soaking up and then strips of hardware cloth of half inch mesh cut the width of the wall on top of the tar paper. The adobe filler walls go on these. If this screen is not used and the wall is built directly on the ground, gophers and squirrels may dig up into it. There must also be one or two intermediate piers twelve inches square for the support of the girder carrying the floor joists.

Here are a few miscellaneous hints toward good construction:

Let the walls settle for a year, if you can, before putting on the outside stucco coat. Then cover the surface with eight penny nails four or five inches apart to act as a key for the stucco.

Don't forget to leave at least one square foot of ventilation for each twenty five running feet of wall for the underfloor space. This is a State Law requirement and is little enough to prevent "dry rot."

Do not attempt to set the ends of the floor joists in the wall, but keep them three quarters of an inch away.

Paint the backs of the door and window frames with a good coat of hot tar before setting them.

For lintels use an eight inch reinforced concrete beam. The mix should be one part cement, two and one half parts sand and three and one half parts crushed rock. Mix twice dry and twice wet. Then place three three-eighths inch square reinforcing rods about an inch from the bottom. This will support an opening four feet wide. A similar beam may be placed over the under floor vent openings.

The balance of the construction may be better understood by referring to the accompanying drawings.

* * *

After reading Mr. Forbes' article, the Editor submitted the manuscript to John Byers, than whom there is no better authority in California on adobe construction, and asked for his opinion. Mr. Byers' reply is printed herewith and while he coincides with Mr. Forbes in the main, he does not advocate this type of construction for houses costing in excess of $7,000.

"I have your letter of some days past, and have gone over Mr. Forbes' article on "Earthquake Resisting Adobe Construction." It is interesting of course and sounds very plausible.

"His method of laying up a rammed dirt wall is virtually the old French method called "pise de terre." My opinion is that when one resorts to various other support-

ing members and uses the adobe merely as a filler wall between those supporting members, the thing is no longer sincere, and has lost a great deal of its charm. However, its value as a heat and cold resistant is still there.

"In the Miles Memorial, which I have just finished in Santa Monica, I would have been allowed to have used adobe bricks as a filler wall, with "H" steel columns for support and a sprandrel beam construction. We later, however, changed the material to stone-tile.

"I believe that such construction, particularly the rammed dirt method, as shown by Mr. Forbes' sketch of form details, would be particularly desirable in such places as the Imperial Valley or some of our hot regions in and about Los Angeles, for small farmhouse buildings where the rancher would be his own architect and builder, but would have little value, if any, in houses above seven thousand dollars."

AIRPORTS AND THE ARCHITECT

When Rudyard Kipling wrote "With the Night Mail, a story of 2,000 A. D." he did not know that he was describing an age which would come to pass while he was still living. The Air Mail is a fact now and we see the motto from Herodotus carved over the entrance of the New York Post Office: "Neither snow, nor rain, nor heat, nor gloom of night stays these couriers from the swift completion of their appointed rounds."

This motto is fitting, and to follow it literally the airplane demands airports. There must be airports for the passenger and express service, which inevitably follow the mail service.

Who shall design our airports—and related sections of their environs which call for design?

In a discussion on this question the Chairman of the A. I. A. Committee on City, Community, and Regional Planning, E. J. Russell, of St. Louis, said that in his opinion the architect should be the designer of airports—for obvious reasons.

In the possibility that there may be other air-minded architects like Mr. Russell, who may have opportunities to design airports or to take an active part in their development, we call attention to the Aeronautics Branch of the Department of Commerce. This Bureau is sponsoring aviation on behalf of the Federal Government, and has issued a number of publications which are of great value.

Particular reference is made to the paper entitled "Designing Safe and Adequate Airports." This is a comprehensive study by Harry H. Blee, Chief of the Airport Section of the Department of Commerce, and contains seventeen pages of text and illustrations. In this article Mr. Blee says: "After determining this general layout, a comprehensive plan covering the ultimate development of the airport should be prepared, special attention being given to the proper coordination of all activities on the airport, to suitable architectural treatment, and to appropriate landscaping, etc."

Other publications of the Aeronautics Branch are "Civil Aeronautics in the United States," a comprehensive review of present conditions; an "Aeronautics Trade Directory," intended for the technical man; an "Airway Map of the United States," current today, and obsolete tomorrow because of the rapidly expanding airway system; "Airports and Landing Fields," a list of municipalities in which airports are in existence or proposed; "Report of Airway Marking Committee," a bulletin which outlines good marking practice in airway development; "Air Traffic Rules," a bulletin of eleven pages with some graphic illustrations; "Airports: Types of Management, Rentals, Concessions, Field Rules," a document of great value which covers airport management, airport fees and rentals, the airport and the operator, airport field rules, model uniform city ordinances, and suggested field rules.

The Aeronautics Branch also publises a bulletin entitled "Domestic Air News." Architects seriously interested should request this publication—by letter addressed to the Aeronautics Branch of the Department of Commerce, Washington, D. C.

THE OAK HILL MAUSOLEUM

By

Albert F. Roller, Architect

SERENELY at the top of a hill beyond the turmoil and glamour of the City of San Jose stands the stately Oak Hill Mausoleum.

This permanent abode escapes many of the undesired characteristics of ground burial. There is a soundness that wind, rain and storm cannot affect, nor the ravages of time efface; and in after years future generations shall see in this type of imperishable monument the deep respect that we should hold for our beloved dead.

In order to secure the imposing hill top for the structure overlooking a wide expanse of the fertile Santa Clara Valley, a tract of approximately eighty-nine acres was purchased by the Cemetery Association.

Tests revealed a formation of hard blue sound serpentine and every pier and footing is on a foundation of solid rock.

The building is of heavy reinforced concrete construction. The main walls, floors and roof were designed independent of the crypt structures within. The crypt blocs are supported on footings individual from the building foundations and every attention was given by H. J. Brunnier in the structural design to make the crypts as secure as possible from any damage by earthquakes or by the elements.

No wood was employed in the permanent construction of the building and wherever exposed metals were found necessary only copper or bronze were used.

The building, of Romanesque influence, is approached by wide level roadways through broad expanses of green lawns and fragrant flowers, and on entering one passes through a rotunda thirty feet in diameter and fifty-two feet high which has been dedicated as a chapel where committal services may be held.

OAK HILL MAUSOLEUM, SAN JOSE, CALIFORNIA
Albert F. Roller, Architect

From the rotunda, in an easterly and westerly direction, extend the two main crypt corridors the full length of the building. From the rotunda also two wide stairways lead to the columbarium or niche rooms provided for urn or cremation interment.

The building contains 600 standard and couch crypts on the main floor and 850 niches on the columbarium floor.

The exterior of the building is exe-

cuted in cast stone and cement plaster. Entrance steps and vestibule floor are of Roman Travertine.

Polished red granite columns and pilasters with bases of Verde antique marble support the three entrance arches.

The walls and dome of the rotunda are of cast limestone. The floor is of Travertine as are the floors of the crypt corridors and niche rooms.

cement are faced with marble and plate glass set in frames of cast bronze. In these spaces, in an atmosphere created by careful selection of color and tinctured with the soft scent of sweet flowers, a visitor may enjoy the comfort of communion with loved ones whose precious dust there reposes.

The most vital consideration in any community mausoleum where hundreds of bodies are interred, is ventilation, not only

OAK HILL MAUSOLEUM, SAN JOSE, CALIFORNIA
Albert F. Roller, Architect

In the main corridors the tiers of crypts are faced with Bottocino marble with pilasters, rails and bases of Tavernelle. By selection of these materials the funereal atmosphere so often found in buildings of this type was entirely eliminated. To further create an atmosphere of warmth and cheerfulness an abundance of daylight and sunshine has been admitted to filter through art glass windows and ceiling lights creating a myriad play of color on the warm tones of the marble lined corridors.

The niche rooms on the columbarium floor encircling the rotunda are clad in marble and the niches constructed of cast

of the crypts but of the corridors and circulating spaces.

In this building a constant circulation of fresh air has been provided for each individual crypt by means of an inch and three-quarter inlet at the bottom of one end of the crypt and the same size outlet at the top at the opposite end.

These vent pipes were cast into the reinforced concrete crypt walls, the inlets extending six inches below the bottom of the floor beams and pulling air from the excavated area under the building. The outlets extend into a plenum chamber formed by the space between the top of the crypt tiers

and the roof slab and from which the air is drawn by numerous suction ventilators.

The strictest precaution was taken to absolutely seal the air exhausted from the crypts into the plenum chambers from any other space or portion of the building.

This system of ventilation was adopted after careful investigation of all prevailing methods and it has proven entirely satisfactory, absolutely dispelling the theory that chemicals of any kind are required to properly ventilate a crypt or prevent odors.

A rapid change of air has also been accomplished in all of the corridor spaces without mechanical means by placing large free area grilles at frequent intervals in the walls close to the floor, and providing large suction type ventilators in the roof connected with ducts to the grilles in the ceilings of the corridors.

It being impossible to isolate on the roof the ventilators that pull the air from the crypts and those that are ventilating the corridors, it becomes obvious that a down draft from one to the other would be, to say the least, a serious defect in the building.

Therefore exhaustive laboratory tests were made of the different types of suction ventilators as it was essential that ventilators be used that admitted a minimum of down draft.

A complete system of floodlighting has been installed and because of the commanding elevation of the building site the building, being visible at night to both north and south bound highway traffic, is clearly defined in a blaze of white light against a black sky.

NIGHT VIEW, OAK HILL MAUSOLEUM, SAN JOSE, CALIFORNIA
Albert F. Roller, Architect

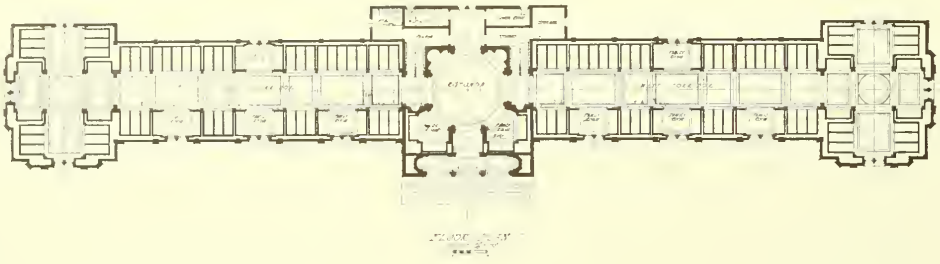
Future additions to the structure have been carefully studied and planned, the present building being but the nucleus of a complete project which, when finished, will contain about 3000 crypts.

A beautiful landscaping plan by Horace Cotton has also been developed and when the extensions to the structure and the Memorial Park surrounding it have been laid out and planted it will present a project that will forever remain a monument to the loved ones who have passed on.

Photo by Moulin

OAK HILL MAUSOLEUM, SAN JOSE, CALIFORNIA

ALBERT F. ROLLER, ARCHITECT



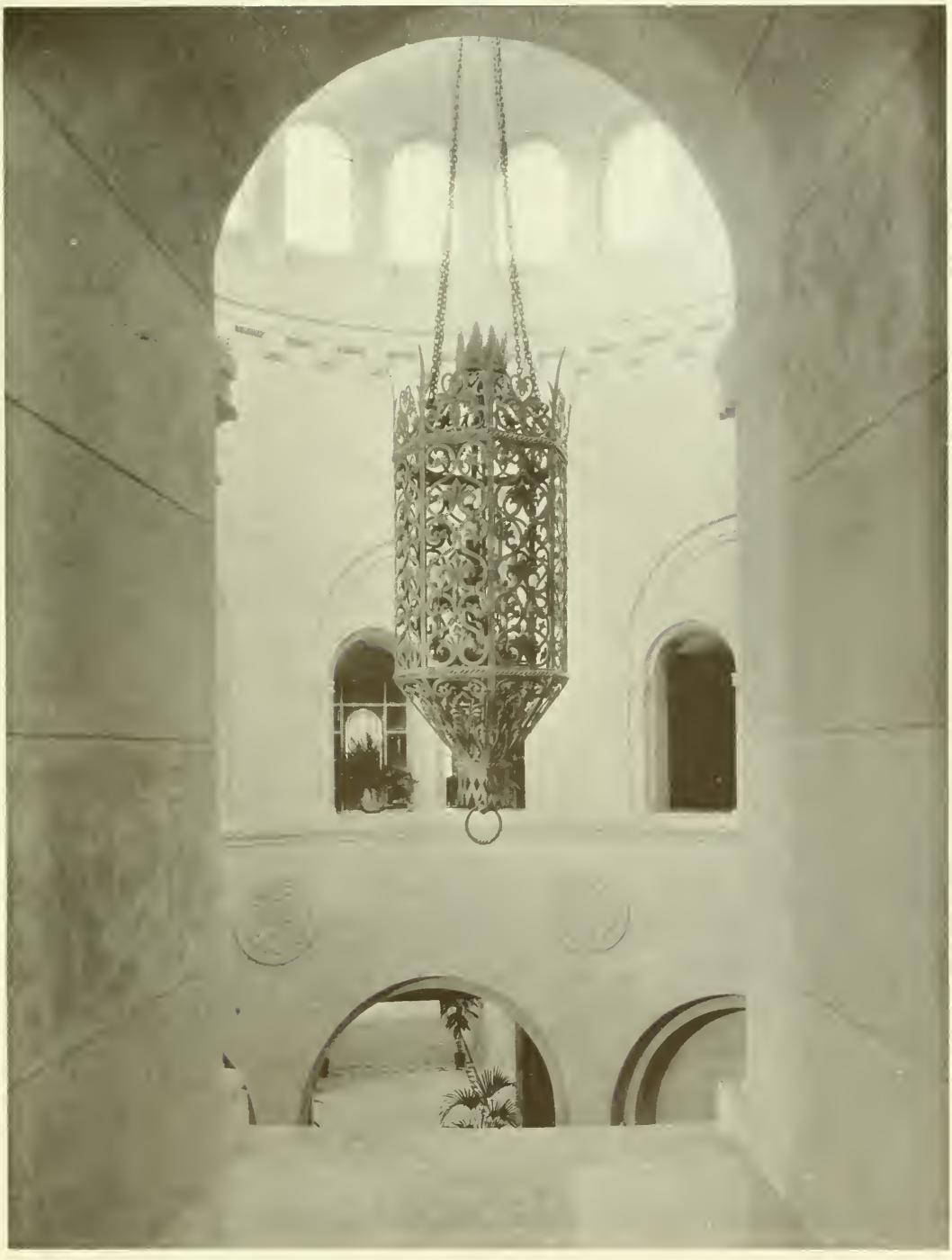
PLAN, OAK HILL MAUSOLEUM, SAN JOSE, CALIFORNIA
ALBERT F. ROLLER, ARCHITECT

NIGHT VIEW, OAK HILL MAUSOLEUM, SAN JOSE, CALIFORNIA
ALBERT F. ROLLER, ARCHITECT

DETAIL OF ENTRANCE, OAK HILL MAUSOLEUM, SAN JOSE, CALIFORNIA
ALBERT F. ROLLER, ARCHITECT

MAIN ENTRANCE DOORWAY, OAK HILL MAUSOLEUM, SAN JOSE, CALIFORNIA
ALBERT F. ROLLER, ARCHITECT

ROTUNDA, OAK HILL MAUSOLEUM, SAN JOSE, CALIFORNIA
ALBERT F. ROLLER, ARCHITECT

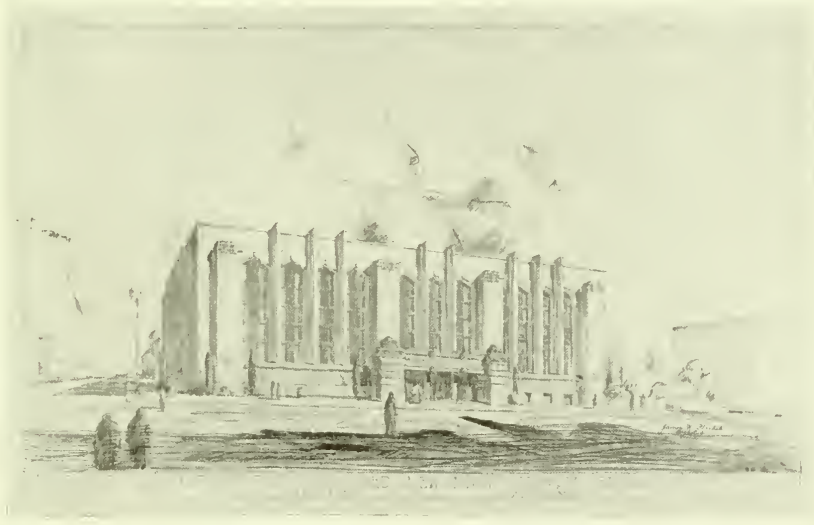


UPPER PART OF ROTUNDA, OAK HILL MAUSOLEUM, SAN JOSE, CALIFORNIA
ALBERT F. ROLLER, ARCHITECT

Marble by Vermont Marble Company

CRYPT CORRIDOR, OAK HILL MAUSOLEUM, SAN JOSE, CALIFORNIA

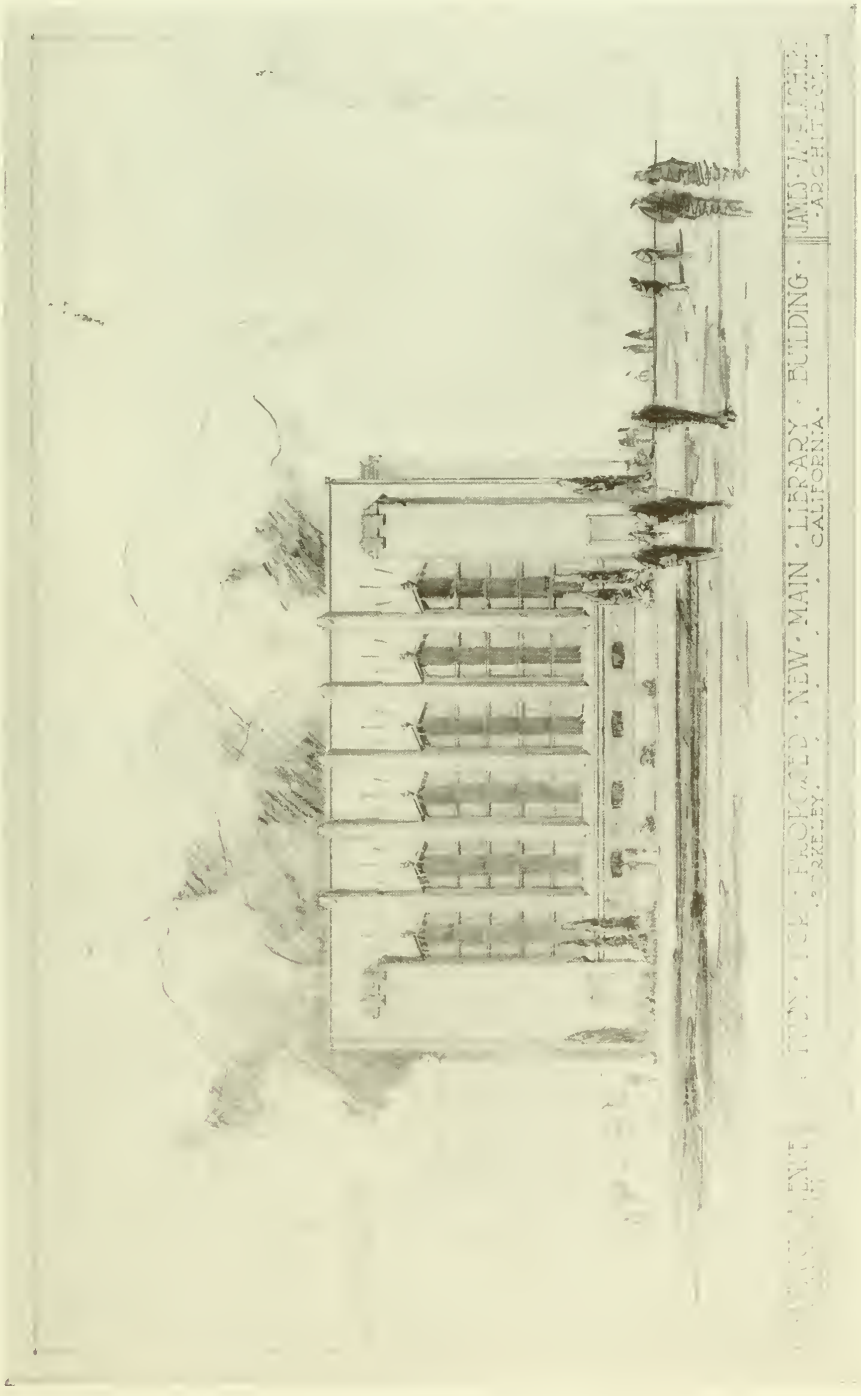
ALBERT F. ROLLER, ARCHITECT



PORTFOLIO · OF · SKETCHES
BERKELEY · PUBLIC · LIBRARY

JAMES · W · PLACHEK · A · I · A
· ARCHITECT ·

PROPOSED · NEW · MAIN · LIBRARY · BUILDING
CALIFORNIA


NEW · MAIN · LIBRARY · BUILDING ·
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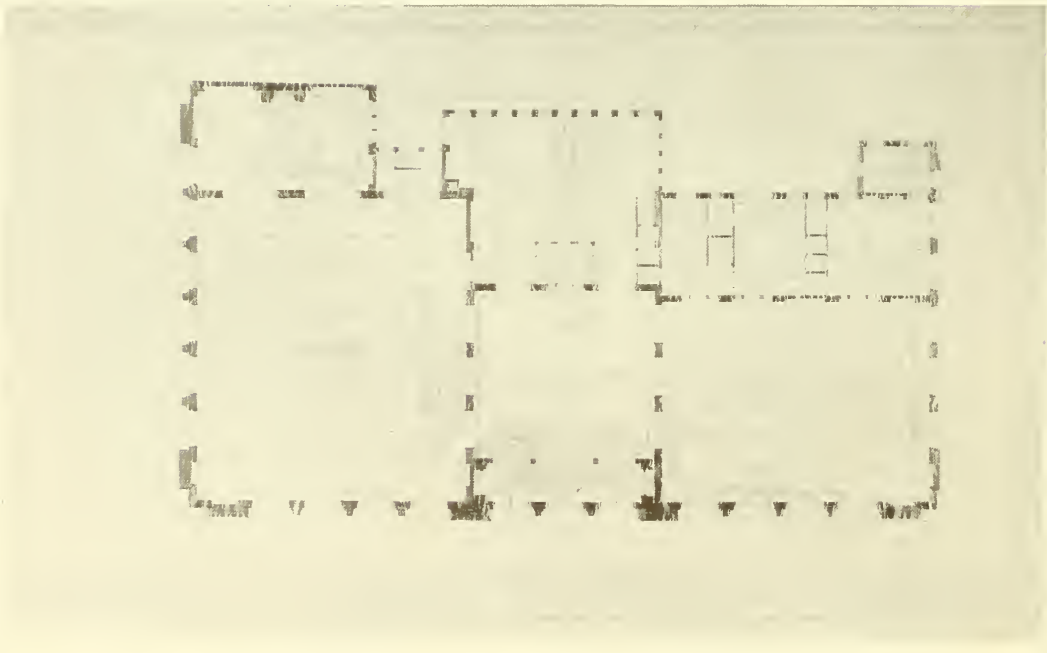
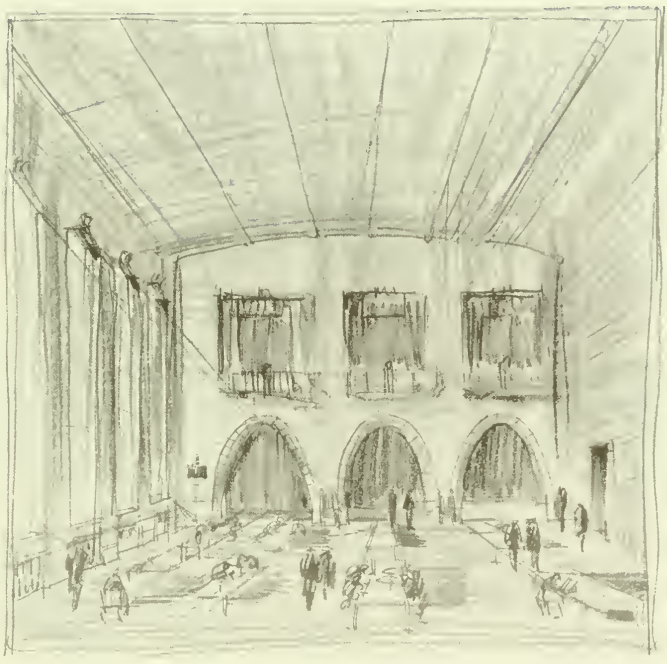
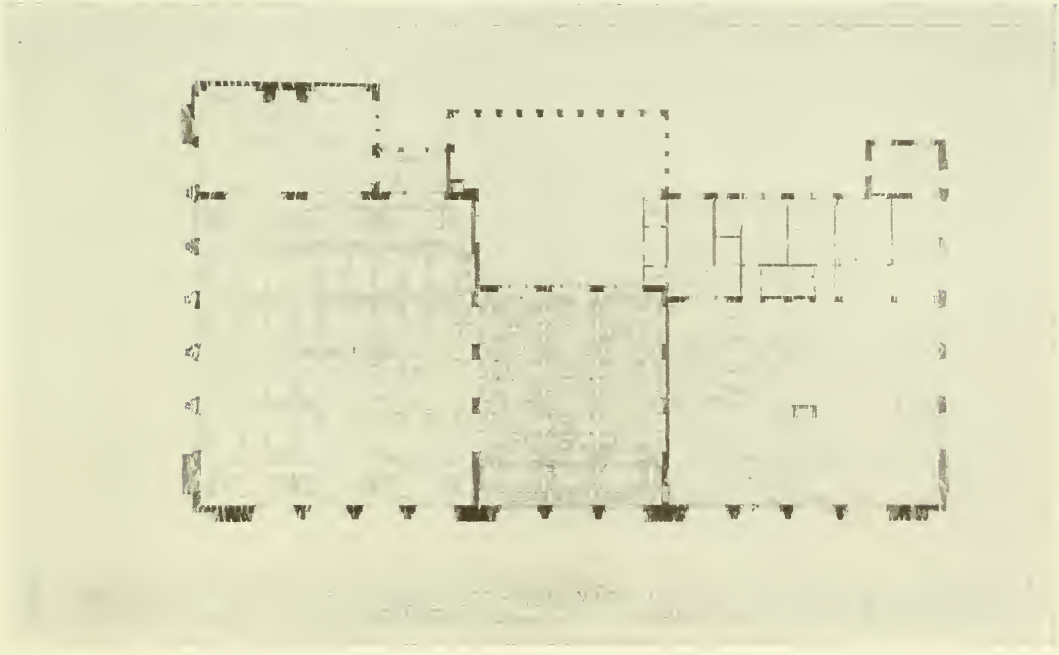
SKETCH OF MAIN READING ROOM, PUBLIC LIBRARY BUILDING, BERKELEY
James W. Plachek, Architect



GROUND FLOOR PLAN, PUBLIC LIBRARY BUILDING, BERKELEY
James W. Plachek, Architect

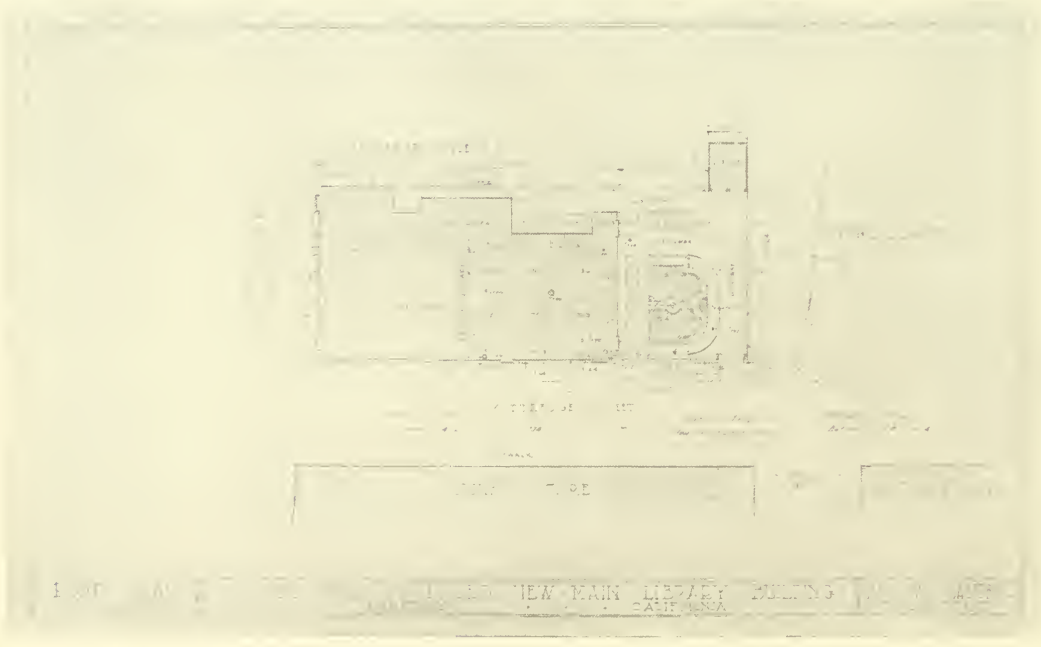


SKETCH OF MAIN READING ROOM, PUBLIC LIBRARY BUILDING, BERKELEY
James W. Plachek, Architect



SECOND FLOOR PLAN, PUBLIC LIBRARY BUILDING, BERKELEY
James W. Plachek, Architect

ROUGH SKETCHES, STREET ELEVATION, PUBLIC LIBRARY BUILDING, BERKELEY
James W. Plachek, Architect



PLOT PLAN, BERKELEY PUBLIC LIBRARY
James W. Plachek, Architect

LOS ANGELES POWER and LIGHT PLANTS

By
Fred'k. L. Roehrig, Architect

FEW people realize that the city of Los Angeles possesses the largest municipally owned electric utility in the United States; and moreover her electric equipment is housed in structures befitting the pride she has manifested in her churches, libraries, and other civic buildings.

In previous issues we have illustrated many of these public buildings, but as yet none of the industrial structures erected by the Department of Water and Power during the last decade have been published. Apparently it has been the aim of the Department to make its buildings not merely a housing for electrical equipment but that they shall have an architectural expression of dignity and repose in keeping with their function, and at the same time be an aesthetic asset to the neighborhood in which they stand. To this end the Department has selected designs of simple lines, good proportions and employing only one constructive principle of square headed openings.

The construction of these buildings is reinforced concrete walls and floor slabs, or steel frames enclosed in brickwork. The plans are usually rectangular, having flat roofs to facilitate the entrance of line wires. The exteriors are mostly stuccoed and what little ornament is employed is precast stone placed to accentuate constructive details and masses.

TRINITY STREET DISTRIBUTING STATION
Fred'k. L. Roehrig, Architect

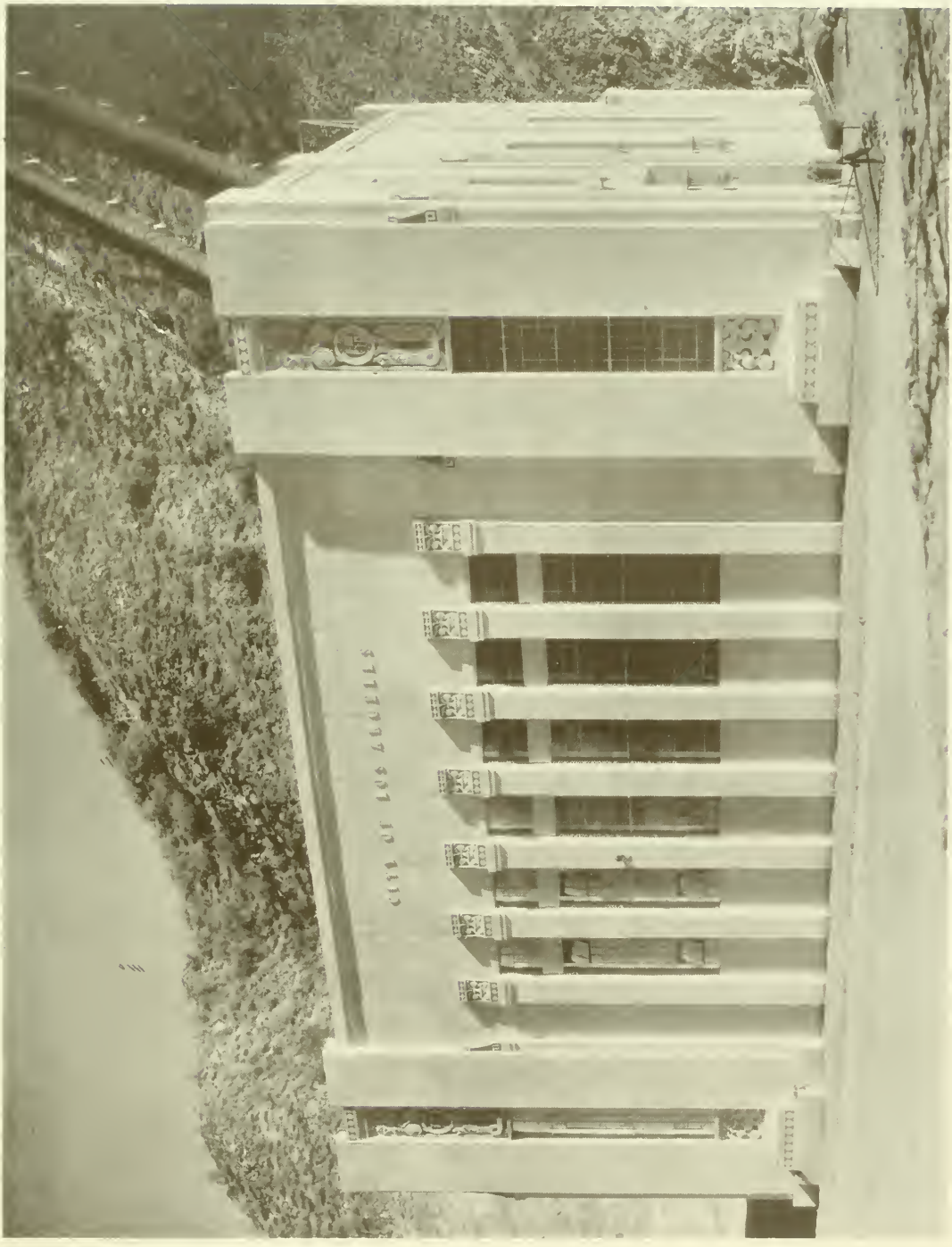
A few of the many generating and distributing structures erected by the Department of Water and Power are shown here. San Francisquito Power Plant No. 2, a hydro-electric generating station 43 miles north of

BUILDING FOR MUNICIPAL POWER AND LIGHT COMPANY, LOS ANGELES
Fred'k. L. Roehrig, Architect

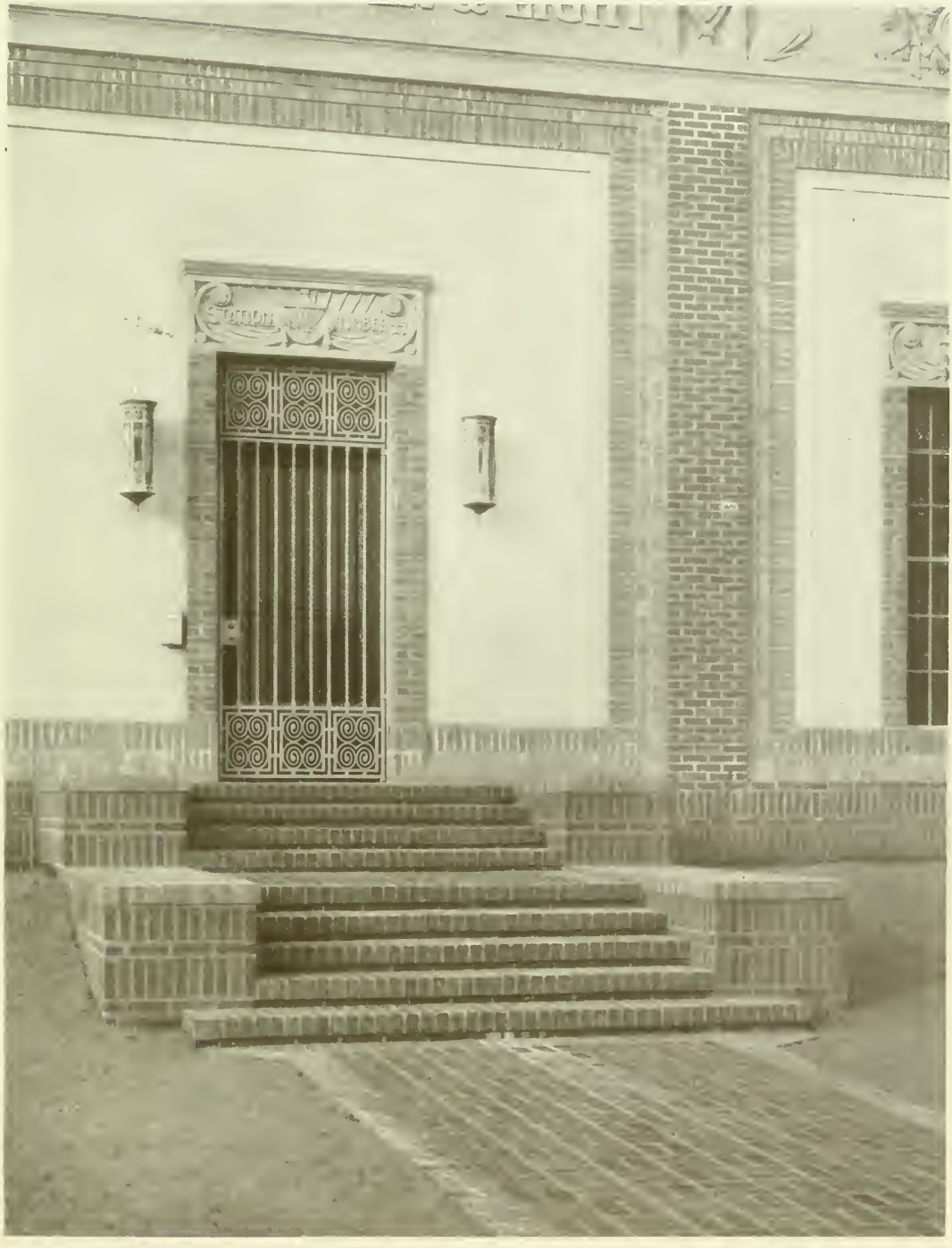
Los Angeles, has lately been finished, and is now delivering electricity over 110,000 volt transmission lines to the receiving stations in the city. The exterior of this building is designed along lines showing a vertical treatment accentuated with bold ornament in keeping with the ruggedness of the canyon in which the building stands.

At the receiving stations, one of which is located at 1020 East 95th street and known as Station B, the electrical energy is stepped down to a lower voltage of 33,000 volts. The plan of this building is such as to call for an exterior of horizontal masses. The walls are dressed down with a surface grinder, but still leaving the form marks to give surface texture. From the receiving stations the current is transmitted to the distributing stations. The distributing station No. 44, located at 911 Lincoln Boulevard, is of steel frame with enclosing walls of ruffle brick. The trimmings of windows, borders of panels, bases, etc., are of red, purple and tan ruffle brick, while the panels are common brick covered with buff stucco. The frieze, just below the cornice, is precast stone harmonizing with the color of the stucco panels. The seal of Los Angeles is made use of as a decorative feature, flanked by lions symbolical of power. The wrought iron gates at the various entrances add strength and interest to the composition.

Some of the distributing stations are two stories with one story wings housing the transformers, and it is from these various distributing stations that the overhead circuits of various voltages go out to consumers to provide the industries and homes with power and light.



SAN FRANCISQUITO POWER PLANT, NUMBER TWO, LOS ANGELES
FRED'K. L. ROEHRIG, ARCHITECT



LINCOLN BOULEVARD DISTRIBUTING STATION, LOS ANGELES

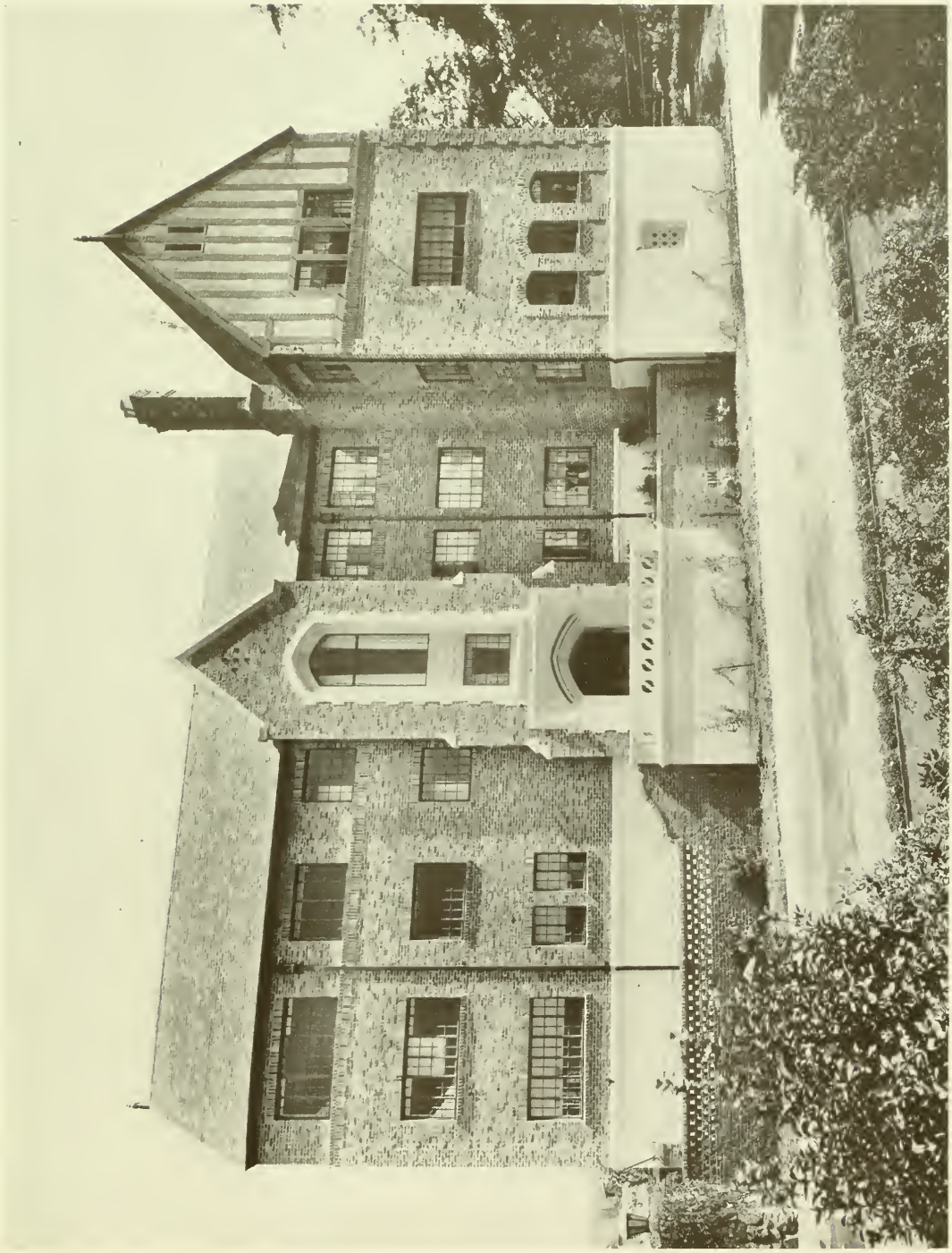
FRED'K. L. ROEHRIG, ARCHITECT

Other Pictures and Plans will appear in the December Number

BUILDING FOR BULLOCK'S WILSHIRE BOULEVARD STORE, LOS ANGELES

JOHN AND DONALD B. PARKINSON, ARCHITECTS

RESIDENCE OF J. E. MARCOUX, SAN FRANCISCO, CALIFORNIA
H. C. BAUMANN, ARCHITECT



CLUB DRIVE APARTMENTS, BROADWAY TERRACE, OAKLAND

R. F. KIEFER, ARCHITECT

MODE of ATTACK of the SOUND-WOOD TERMITE on a CITY BUILDING

By: Chas. Atwood Kofoid and
E. A. Garland

THE three main types of termites attacking buildings on the Pacific Coast are the Rotten-Wood Termite (Termopsis), the Subterranean Termite (Reticulitermes) and the Sound-Wood Termite (Kalotermes). Each has certain limitations due to its instinctive habits of life, each attacks in a different manner, and each has its distinctive geographical range. All these kinds of termites occur over large areas of the Pacific Coast, and Reticulitermes throughout most of the United States in dead timber in the forests, and all of them establish colonies in wooden structures, posts, and poles.

The Rotten-Wood Termite thrives best where ground connections of the timbers afford sufficient moisture, though their burrows may extend far into perfectly seasoned wood of long standing. It may even attack water tanks on the roof of a seven-story building.

The Subterranean termite maintains connections with the earth, whence it invades mud-sills, porch timbers, foundations, the butts of posts and poles, and eventually the superstructures above. It may even work its way through mortar or cement rich in lime to woodwork above. After early fall rains it will be found emerging in the middle of the day in the winged or alate stage from the earth, cracks in brick or cement walks, often at considerable distances from any wooden structures.

The Sound-Wood Termite is wholly independent of any connection with the earth. It enters poles, fences, and buildings at all levels above the earth up to at least three stories. Its upper limits of flight are not known, but may bear some relationship to the level of origin of the swarm. This species, because of its independence of the earth and of soil moisture, is capable of attack upon buildings whose wood is well isolated from soil contacts.

Its mode of attack is for the royal pair, a king and queen, swarming from old colonies more abundantly after fall rains than at other times, to enter some crack or crevice such as that about a window or door casing, or under shingles, or tiles, or in a check in the siding (Fig. 1). A new colony is thus established which in time extends operations by driving its burrows beyond the original site of infestation. This work is done by the young of the colony in Kalotermes, which has no distinctive and permanent worker caste. As the young increase in number the number of burrows entering into the wood increases. Supplemental reproductive pairs may be added to the colony from its own progeny and these still further increase the labor supply.

An example of an attack upon a brick business building in a prominent city on this coast has recently come to light. The entire ramifications of the colony were followed out in the process of its extermination. It presented so many points of interest and seems to be so typical of the work of this species that a presentation of the facts is of general interest to architects and engineers, as well as to owners of infested buildings, and to contractors engaged in ridding premises of the Sound-Wood Termite.

The structure attacked was a two-story brick building erected in 1888 (Fig. 2). At one side of the building there had been an outside stairway on brick walls leading

to the second floor, beneath which wood was stored. Later this was transformed into a flat-roofed store-room with a sky light, but the door above was retained and the opening closed by a sliding fire door.

The building was occupied by a furniture store. On the second floor was a thick wool carpet with a heavy felt mat beneath it. The floor was of Douglas fir, resting on the redwood false floor and this in turn on 2″x16″ Douglas fir joists 50 feet long, with bridging along the brick wall, and two 2″x16″ 8-foot scabs extending out from the brick wall along each joist. The fire door, the door jambs, and door sill were of redwood.

The first observation of the presence of termites in this building was noticed about August 28th in the second floor near an outside door. Pellets were noticed underneath an antique birch cabinet. Each time the cabinet was moved to sweep the carpet there would be a new pile of pellets and upon close examination holes were seen through the wool carpet which covered the entire floor, and small holes penetrating the 1x4 tongue and groove Douglas fir flooring were observed. There were four different locations where holes were observed through the carpet and felt floor covering. Upon removing the carpet and felt covering and the first floor, holes were observed penetrating the redwood subfloor. Upon removing the subfloor there were holes penetrating the 2x16 Douglas fir floor joists. A section of the floor was then removed at either side of the outside door about four feet in width, and for half or about 25 feet of the width of the second floor, which floor was about fifty feet in width. The termites had attacked nine of the 2x16 scabs on either side of the floor joists for their full length of eight feet. Also two of the main floor joists had been attacked for about 23 feet. Only two sections of the 1x4 Douglas fir flooring had been attacked, extending about 18 feet in one direction from the door and about 10 feet in the other direction. The termites had crossed one joint in the Douglas fir flooring, but no more.

The solid bridging between the floor joists near the door were the most severely attacked, two of them having been damaged at least 50%, the other damage being in no place in excess of 10%.

The redwood door jambs around and over the top of the outside door, as mentioned above, had been penetrated with one or two holes clear around the casing and the first two inches next to the floor of one side of the door jamb had been damaged to about 25%.

The bottom inch strip on the metal covered sliding fire door had been penetrated for its full width. This and the door jambs were the only two instances where redwood had been attacked.

Two of the front legs of the chest were resting directly over the two pieces of infested flooring. Each leg had a single hole penetrating into the bottom. One leg seemed to be more infested than the other and was removed from the chest, creosote poured into the hole, and in a few minutes was turned right side up and tapped with the result that approximately 500 termites came from within the leg. The other leg was apparently not badly attacked.

The selection of two boards only out of the many available in the Douglas fir flooring and the passage from one to another across the end but not from side to side is also quite characteristic.

The selection of two joists only and of nine consectutive scabs and the omission of three of the joists included between them is a unique illustration of the preference of the termites for particular pieces of wood. It is quite probable that this run of adjacent scabs was cut from the same timber, or at least from the same log. They may well have been from the same one as that from which the two joists which were attacked were sawed. In any event our observations on attacks by termites upon wooden structures are quite generally characterized by the fact that, given the choice of timbers in the path of their ravages, they enter some timbers and leave others, even though in location, appearance, and kind of wood the timbers are similar. Factors, such as the hardness of the wood, the amount of its resin, its age in the tree, and its chemical

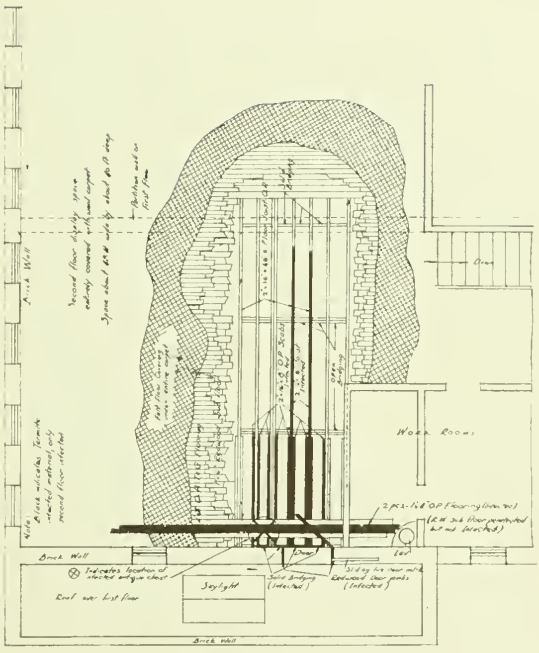


FIG. 1—PLAN OF BUILDING ATTACKED BY TERMITES

content, enter into the determination of the selection by the termite.

Investigations made by Dr. Noyes in our laboratory at the University show that the jaw of the termite which gnaws the wood is one of the most intensively innervated structures of the body, and that sense organs end in nearly every hair on the antennae, legs, and mouth parts, and specialized groups of peculiar sense organs, some of which are probably olfactory, occur on the mouth parts and antennae. Termites are equipped to touch, smell and taste; to sense the resistance of the wood they gnaw, and seemingly become aware of strain upon the wood itself.

The attack upon the antique chest presents an unusual situation in that the termites apparently detected it above the flooring, even though isolated from it by felt and carpet. An analysis of this attack reveals certain significant characteristics. Entrance of the colony was probably made around the door on the second floor, although it is probable that the single burrow carried entirely around the jambs in the redwood was concerned with an outlet for swarming. The attack upon the bottom strip of the fire door was possibly a blind alley explored on the way in to the building. The heavy attack in the bridging against the brick wall is severe because it is the oldest region of invasion and also favorably located as to moisture.

In the attack within the building the avoidance of the redwood false floor, except for transit, is striking. Termites, especially the soldiers, have the habit of "shimmying" in their burrows and rattling their heads on the sides, apparently communicating alarms in this way. Possibly the density of the adjacent structure modifies the sound so as to guide the extension of the burrows, even across a barrier such as that of the felt and carpet.

One other suggestion presents itself, namely, that the termites were introduced in the chest and went down into the floor through the carpet in the first place. The short time the chest had been on the floor —about a year—hardly suffices, however, to provide for the growth of the colony to

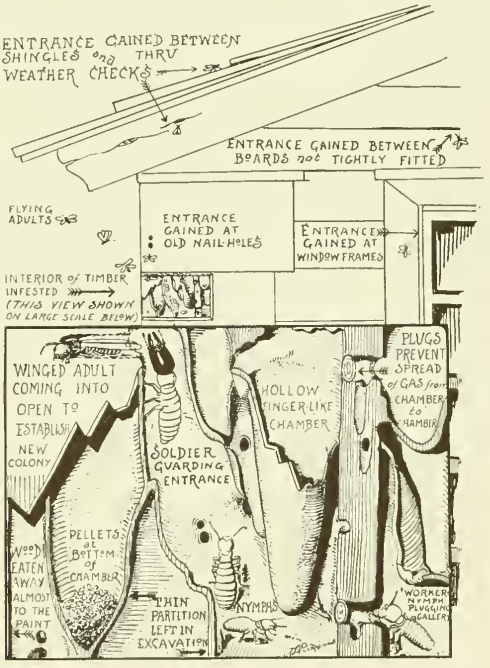

ENTRANCE GAINED BETWEEN SHINGLES and THRU WEATHER CHECKS
ENTRANCE GAINED BETWEEN BOARDS not TIGHTLY FITTED
FLYING ADULTS
ENTRANCE GAINED AT OLD NAIL-HOLES
ENTRANCE GAINED AT WINDOW FRAMES
INTERIOR of TIMBER INFESTED
(THIS VIEW SHOWN ON LARGE SCALE BELOW)
WINGED ADULT COMING INTO OPEN TO ESTABLISH NEW COLONY
SOLDIER GUARDING ENTRANCE
HOLLOW FINGER-LIKE CHAMBER
PLUGS PREVENT SPREAD of GAS from CHAMBER to CHAMBER
PELLETS at BOTTOM of CHAMBER
Wood EATEN AWAY ALMOST TO THE PAINT
THIN PARTITION LEFT IN EXCAVATION
NYMPHS
WORKER NYMPH PLUGGING GALLERY

FIG. 2—HOW DRY-WOOD TERMITES MAY ATTACK THE FRAMEWORK OF A BUILDING

the size detected on exploration. It is probable that at least several years were required for such long extensions of the colony into the joists and floor, as were found.

The colony was exterminated in part by the removal of the infested pieces and in part by the injection of creosote into the burrows through small auger holes at intervals into the timbers.

It appears from the selection made by Kalotermes that Douglas fir is more to its taste than redwood, that some Douglas fir timbers are more attractive than others, and that redwood will be traversed (jamb and false floor) to get to other timber, or will be taken (fire door) when other wood is not in contact with it.

Prevention of attacks such as this by the Sound-Wood Termite on buildings such as this may be afforded by careful attention to certain details of construction. In the first place, there should be a perfect bond made between the mortar and the door jambs and window frames which should not be disturbed in the later finishing of the opening. In the second place, there should be close jointing of the wood members around all openings and a complete coverage of all joints and checks by putty and paint. Under these conditions of good construction the swarming king and queen will find it difficult to get a point of entrance into the wood used in the building.

The attack of Kalotermes on the bridging along the brick wall and into the end of joists and scabs extending from this wall is an illustration of their sensitiveness to areas where there are slight differences in moisture. Laboratory tests of termites show that they are exceedingly sensitive to the slightest difference in moisture content of the air and will very quickly go to the region of greater moisture content. Brick walls, during the rainy season, accumulate a slight amount of moisture and retain it for some length of time. The ends of timbers in contact with this region are thus favorably located for termite attack.

Types of construction in which the ends of such timbers have ventilation provided by a small air chamber around their sides and at the rear of their ends are recommended in Appendix W-1 on Termite Protection in the Building Code of the National Lumbermen's Association. This space provides for more circulation of air and dissipation of the moisture and thus reduces somewhat the attractiveness of this region to termites.

The fact that the area beneath the stairs had been at one time used for storage of wood for fuel suggests the possibility of the introduction of Kalotermes in oak wood, which sometimes happens, but such wood is usually cut up to such an extent that the ants quickly get access to the termites and eradicate them. The entrance of the king and queen in a crevice around the opening at the swarming season is much more probable than the migration of termites from stored wood into the door some feet above the wood. Good construction can undoubtedly greatly reduce the incidence of termite attack upon buildings. Every center of infestation eliminated in a community reduces the probability of the spread of the infestation elsewhere.

SOUNDPROOFING APARTMENT HOUSES

INCREASING evidence is appearing to show that the great mass of apartment renters and owners in this country is becoming conscious of the evil of noise and will soon be demanding in no uncertain terms that apartment homes be properly soundproofed.

Increasing noise in both city and country is bringing this about. The radio amongst other things is constantly creating trouble between tenants in apartment houses because of the disturbance it creates in rooms adjoining those in which it is intended to be heard.

Not only in preventing passage of sound from room to room, but in making each individual room more quiet and sound-absorbent, do we find increased activity on the part of apartment builders who realize this growing interest in silence on the part of the public.

Sound absorption and sound-proofing are very closely linked but they should not be confused. To reduce noises in corridors,

lobbies and other public parts of the building, builders may employ materials which have the property of absorbing some of the sound waves as a blotter absorbs ink, rather than reflecting them.

Many ordinary materials used in walls, floors and ceilings reflect sound almost as perfectly as a mirror reflects light so that even a slight noise is amplified and reverberates through the place. Thus much noise may be eliminated by using resilient floor material such as linoleum, rubber, cork, composition, etc. Walls and ceilings may be made sound-absorbent by the use of some of the new materials such as special plasters which absorb from 10 to 30 per cent of the sound that strikes them, and by using special tiles, wallboards and felts specially prepared for this purpose.

It is obvious that by using sound-absorbent materials in the rooms where noises originate, the original evil is much lessened right at the start. However, the chief problem that has confronted builders in the past has been that of preventing the passage of sound from one room to another.

Laboratory experiments and researches of many kinds have been carried on in the past few years to determine the effectiveness of various suggested methods for accomplishing good sound-proofing. Probably the most thorough and reliable tests of this type were conducted by the U. S. Bureau of Standards.

One of the things that most of the laboratory examinations have shown is that many of the old-time methods used by builders to get soundproofing were based on incorrect theories and really did very little good. One common mistake has been to place sound absorbing material in partitions without paying much attention to corner supports and structural members. The tests show that practically all sound energy is transmitted from room to room by these means and if they are not taken into consideration very little good is done.

Experiments seem to show that practically all noises are transmitted from one apartment to another in two principal ways. In the first they cause the walls themselves to vibrate so that both sides of a solid wall or one that has solid connections between its surfaces, act like a diaphragm and recreate sound waves on the other side.

The second way in which sound passes through walls occurs through those of hollow construction. The wave action is like that of a drum; the surface between studs or other solid members receives sound waves on one side which are transmitted to the enclosed air space. This air vibrates and starts the other wall surface vibrating similarly. If the two surfaces are not connected by any solid member, however, the transmission of sound is very slight.

The walls alone, of course, are not the only conductors of sound. Floors must be taken into consideration and properly soundproofed. In apartments of fireproof construction where floors are reinforced by concrete or steel, the most successful results seem to come from floating the finished floor on some flexible material and hanging a suspended ceiling beneath, also using flexible or sound absorbing connections.

Staggered floor joists may be employed where wood floor beams are used in securing proper soundproofing. The usual number of floor beams are used to support the floor but between them a second set of beams or joists at a slightly lower level are placed to which the ceiling is applied.

The feature of this method is that no physical connection exists between the members supporting the two surfaces. A flexible sound insulating material such as hair felt or some other flexible, fibrous form of insulating material may be woven in and out between the beams carrying the floor and over the tops of those carrying the ceiling.

This system is quite effective and is still further improved by weaving a layer of similar material under the finished floor.

As a result of the exhaustive laboratory studies conducted a number of very effective soundproofing systems have been perfected and are now being offered by the various manufacturers who supply materials. As a rule, the company contracts to soundproof the structure and very often guarantees the results. The builder thus has available a reliable engineering service

and may have his building soundproofed by individuals with a thorough understanding of the problems involved.

Of course there are many other things to consider in planning a silent apartment other than the actual construction of floors and walls. The architectural design is so very important that this should receive first consideration. Very often an air vent will act as a perfect resonator and carry sound from one part of the building to the other. It should be recognized that doors or other openings are effective transmitters of sound and steps should be taken to make them soundproof.

They may be made partly so by use of weatherstripping or felt around the edges. Where complete silence is to be obtained the best method seems to be the use of two doors, one on each side of the wall. In other cases it is usually possible to use a built-up door which contains an asbestos or other filler in the core which will prevent passage of sound.

The successful soundproofing systems now available to builders carry the findings of research men into practical use. In all cases they insulate the partitions from the floors and ceilings and from rigid walls and columns by the use of flexible and sound-absorbing devices of one kind or another.

One patented system employs metal chairs with a seat of hair felt. These metal chairs carry the partitions, while similar chairs are used to support furring strips on the sides of the walls or sleepers along the floors. Another type of felted device is used to suspend the plastered ceiling from the structural members. These units are employed in conjunction with either metal or wood studs for non-bearing partitions, placing these members in staggered rows for walls, with a layer of felt woven in and out between them.

The same principles are used in another patented system which employs spring metal clips to perform the same functions as the felt seated supports in the other. This method is used with gypsum tile or masonry walls, or with wood or metal studs. Used with this is a filler in powdered form which is interspersed between the plaster interior surface and the gypsum tile.

Through use of this system the plastered wall is held away from the partition by means of the resilient clips and allowed to vibrate freely. There vibrations are taken up by the insulative fill and as a result the atmospheric motion is absorbed before it even gets to the gypsum partition tile.

The outstanding fact about soundproofing is that it is a coming feature of the apartment building which architects and builders can hardly afford to neglect. Methods and materials are now on the market which are really efficient and a growing fund of information is available.—*Building Age.*

BUILDING FOR STANFORD AUTO COMPANY, PALO ALTO
Photo Taken Before Alterations

BUILDING FOR STANFORD AUTO COMPANY, PALO ALTO
Birge N. Clark, Architect

OUTLYING SHOPPING CENTERS

By CHAS. H. CHENEY, *City Planner*

THE importance of local neighborhood business or convenience centers to all the outlying residential areas of any city is very great. These local business centers, and similar centers in all our cities, have been established almost invariably at important crossroads of traffic. To succeed local stores must be where people can most conveniently get to them from several directions, in order to provide enough customers for profitable service.

In questioning shopkeepers of these local centers, in many cities during the course of zoning hearings, I find that most of them expect to get their trade within six or eight blocks of their establishment. Larger local centers will cater to and reach a much wider circle, but one still comparatively local to the center.

Through traffic coming from a long distance seldom has as much purchasing power as the local traffic. In fact we seem to have an exaggerated idea of both the volume and importance of through traffic to local stores, except for restaurants, garages and oil stations.

In a town of 500 population, the only business center is at the railroad station, or bus station about the crossroads and about 250 feet of store frontage will actually be in use.

In a local center of 5000 people, the 2500 feet of store frontage needed cannot profitably shoestring out along just the two main streets which ordinarily form the crossroads that created the center, and will tend to spill over into side streets, with perhaps one or two nuclei of local centers, forming in the outskirts.

In a city of 50,000, with 25,000 front feet of store frontage ordinarily necessary there should be already six or eight well established outlying local centers.

In a city of 500,000 there will be found from 30 to 100 of these neighborhood centers, of variable size because they have been uncontrolled. There will also be a lot of falsely located and scattered store units, placed at inconvenient and therefore unsuccessful points by speculators who had little or no knowledge of the traffic necessary to store livelihood. These are the non-conforming uses of the belated zoning now being done in most of our cities.

Of course the number and character of local store centers will vary with the local characteristics of cities. Thus congested tenement house cities like New York and San Francisco tend to develop local business centers at so many corners of street car or traffic streets as to make the line of stores more or less continuous.

Single family detached home cities like Los Angeles and many middle western cities have lesser need of centers so close together and business units are more likely to congregate at well established crossroads much further apart.

There is the same danger of shoestring speculators, however, unless proper zoning regulations clearly confine the location of business buildings to reasonably limited areas. This can be done either by private restriction or by municipal zone ordinance.

Zoning, in fact, is the most important foundation for the proper layout of local business centers. Concentrated centers are more successful than long drawn out ones, scattered over a wide area.

Real estate developers who can control by protective restrictions several hundred, or better, several thousand acres of suburban development have a great opportunity to limit the total number of stores to something less than 5 per cent of the number of buildings anticipated in their district, thereby insuring the reasonable success of the businesses which come into the district.

DOMESTICATING ART

By

Richard F Bach

IN a droning textile mill, one of the many turning out dress and curtain fabrics in one of our thriving commercial centers, a designer fought against time and inimical surroundings in the search for novelties to please a jaded trade. It was summer, but the work before him had to do with fabrics to be sold the ensuing winter. On his table were pattern books, samples of goods, certain standard books of references, and some acceptable sketches. But he was disgruntled; in his sketches he had brought together the thoughts of many days, with a few nights at home thrown in; he had organized forms and lines into attractive harmonies; he had marshalled colors that others thought bewitching. Yet to his practised eye there was something lacking, and his dissatisfaction grew as he beheld in imagination thousands of yards of the goods bearing his design issuing from unthinking machines. In his ears was the din of the looms and outside the office windows sounded the clang of passing surface cars, the grating of changing gears at the traffic crossing. It was useless to try longer; the drawings were pigeon-holed for the day.

Still pondering the problem of color, the designer sought the less frequented streets on his way homeward. Near a deserted shack lay a pile of rotting logs; decay had crumbled parts of them to tinder and in the irregularities of the pile were deep shadows. A score of times had he passed this spot and seen but a heap of dank timber, but this evening a queer light in the shadows of the pile arrested his attention. There he saw a radiance of faint blue and brilliant yellow, now soft as silken velvet, now shining with metallic hardness. With an exclamation the designer stood still; his eye promptly fixed the colors in his memory while his mind was busied with ways and means of obtaining in his goods the contrast of textures which he had caught in the phosphorescence of crumbling wood. As he stepped back he destroyed with a careless kick a number of toadstools. Dull brown on top, several of these showed an under surface of elusive pink, streaked with crimson. The artist drew breath, for the design had in one glance lost all its difficulties.

The night found him at work again. The forms of the old design remained, but the colors were new. Out of the colors he had seen in the most ordinary things he concocted a ravishing combination; with the aid of other experts in the mill he then worked out texture variations. The result was a triumph; the looms seemed not to rattle but to hum rythmically as they wove it. Fifty thousand yards were woven and sucked up by a greedy market; and another fifty thousand, before piracy of the pattern by other mills had so stultified the design that the original maker gave it up. Out of a designer's conscientious scruples and the unseen beauties of commonplace things had come not only a commercially successful pattern, but a fabric that brought pleasure to thousands that bought it.

Such designers there are, with every human weakness and virtue, in scores of mills and factories and reeking workshops. They make designs for woven laces, printed wall papers, for velvets and cretonnes, for neckties and lampshades, for rugs, advertisements, china and bracelets, for no end of

things of daily utility which, without such attractive design, you and I would never want to own. These designers, men and women, find their inspiration in many ways, but more often than we think or know they find their motives and colors in commonplace things.

So we find a designer of lighting fixtures, for instance, who discovered a form for the shade of a wall bracket as well as new colors for glass in the shape and quiet of the mountain laurel blossom. So also we find a worker in stone whose treatment of brown sandstone carvings suggested itself in a dead oak leaf thrown by the wind against a curbstone and there partly covered with mud washed in by a recent rain. And again, the scenic designer whose effects for a stage backdrop were given him almost ready made in the gasoline stain upon a moist pavement, where reflections had made a parti-colored sunburst of radiating lights.

Designers of all times have found their inspiration in the commonplaces of nature, as well as in the gorgeous plumage of birds or the most resplendent colors of flowers. For us their handiwork is preserved in museums of art, which in turn also serve the designers of today in the preparation of silks for costume, the furniture and other things that constitute the decorative and industrial arts. In museums designers of today find in concentrated form the craftsmanship of their peers and masters of other days. Each has written in slowly fading color and in materials that have defied centuries of human wear and tear the story of his own time, its beliefs, hopes and daily routine.

In these records of past life also the artist of today seeks inspiration, coming upon it in Indian rugs or Persian lacquered bookcovers, if he happens to be a designer of ribbons for Palm Beach or Southampton; or perhaps in a Spanish fan, if he happens to be a designer of costume laces; or in Japanese armor, if his work is to design sport skirts. And occasionally a consummate artist will leave pad and pencil at home and browse among past glories to assimilate a general tone or character of style. Such was the costume designer who sat for hours in the Persian room at the Metropolitan Museum, seeking no definite motive, but carrying away with her the inspiration which became the keynote for a sequence of creations in gowns and evening wraps.

But for each such designer that we have here mentioned a hundred go unknown; for each design that captures a market there are a thousand that remain unsung. As one painting may be just a landscape while another is a Corot, so it is also in the arts of the book and of the stage. And again, for each designer there are a hundred thousand who buy his work, or the product in which it is incorporated. For each creator of art there are a hundred thousand appreciators, and they show their ability to appreciate design by their selections in the stores. To this extent they, too, are designers; in this way you and I exercise that discrimination which also guides the creating artist or designer. Above all do we function as designers in the selection and arrangement of our home interiors and of our clothes. In these is character written indelibly. Yet these are too often among the neglected, unstudied ordinary things which hold endless possibilities where unseen beauties lurk.

As the designer found unseen beauties in the commonplaces that for others offered not even passing interest so may we find in the making of home interiors an intellectual enjoyment and a mental satisfaction that will bring new pleasures into life. The choice of wallpapers, for instance, may be a humdrum job, but consider it in connection with hangings, with prints to be hung against it, with colors in rugs or chair coverings, and it becomes a significant undertaking; significant not only in controlling relationship to all other items of furnishing, but significant also in its contribution to the building up of a background of culture against which your daily life is lived and seen by others.

You may say "I know nothing of art," yet you must select objects of art for the home; you cannot dodge design in common things. You may say "I know what I like," and I reply that this is the beginning of taste. Find out what the best artists and the most cultured people like and you will see how their standards are based upon this same expression, with the sole difference

that they "know what they like" because what they like is founded upon forms, color combinations and styles of art that have been tested by time and long usage among nations. Art is servant in ordinary to man; there is no item of personal or home adornment that can do without it and survive.

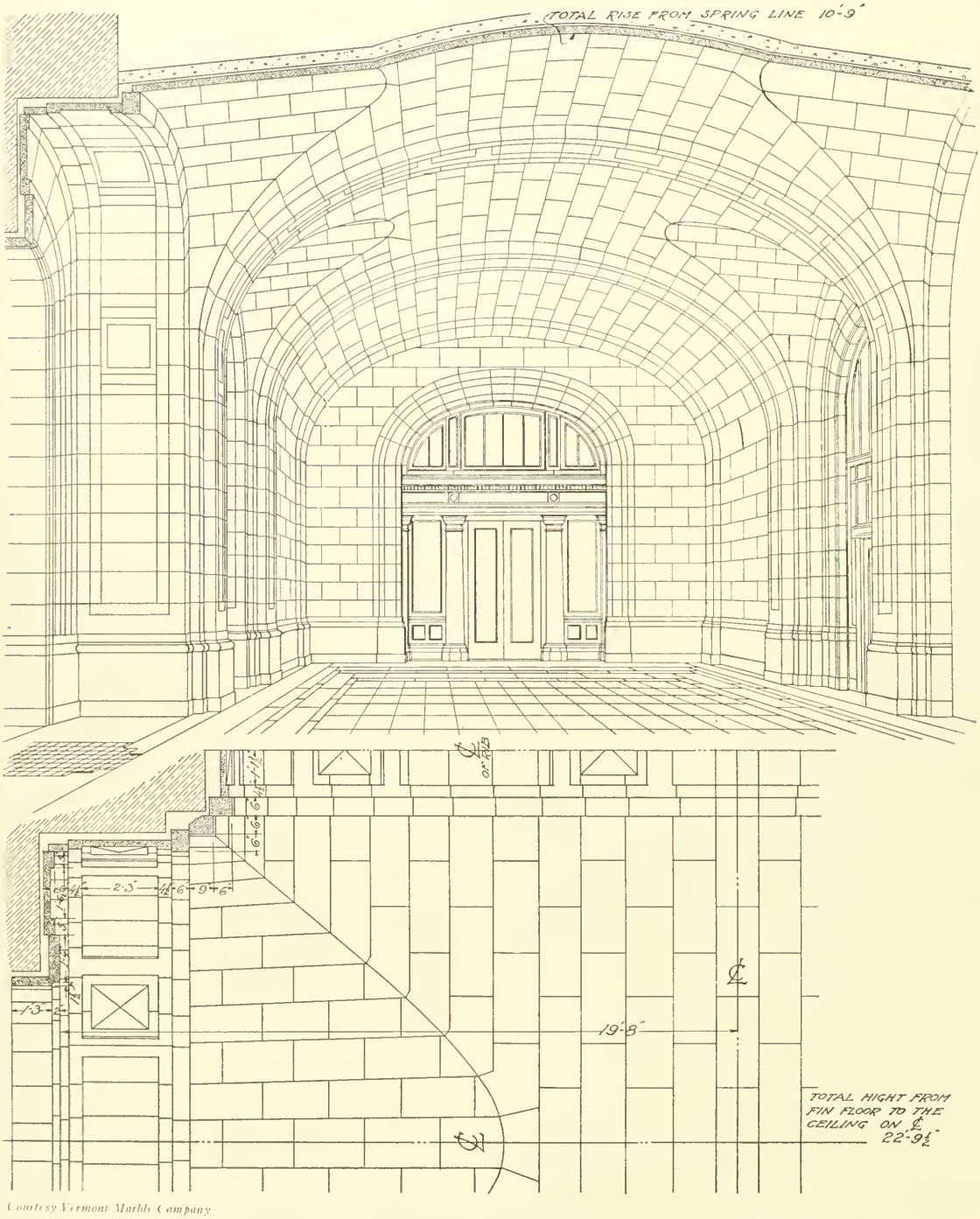
That is why the designer finds his inspirations so readily in the unseen beauties of the commonplace; the things he designs are desined to become the common places of human environment. The common places of life build character, and by the same token, the common places of home environment make for citizenship in youth and cultural standards in the maturity of later years. What the child sees his parents use he considers right and will imitate; a parlor chair with green plush covering and a carved back that defies comfort becomes a definite factor in his standard of home furnishing. His father's silk shirt in five color tints as setting for a cravat of five color shades is not the best criterion upon which to base selection of his own apparel. The chromo of fruit or fish that so often hangs above the sideboard will not prompt him to select the color print of a painting by Abbey or Sargent for his own room at school. Will he read Conrad or Locke if he has seen only a movie weekly and a magazine called "Peppy Tales" at home? Home is the bedrock for all man-made standards that contribute toward a sane outlook upon life. A home environment based upon studied selection of every item of furnishings and decoration makes for peace of mind, which is the foundation of progress.

Antiques do not make a home nor do reproductions. In art, as in other ways of life, things are not good because they are old, or seem to be. The good things of here and now express our own time; use them. Careful judgment is needed. If you are to make of the home a work of art representing your own ideals, every piece must be of good material, well made and well designed. To obtain your good will a thousand factories equipped with the most complicated machinery man has ever devised for any purpose are daily converting wood and clay, fibres, skins and hides and myriad forms of vegetable life into objects of industrial art. An ordinary button bought by the dozen on a card, representing a year's work and some ninety processes of manipulation, is shown you in the store as but one of a score of designs. A simple cretonne pattern is ready in many shops in several colors, yet there must be prospective orders for ten thousand yards of it before the textile printing machine can be set in motion.

When one craftsman made the whole of a piece his entire effort went into it; when that craftsman grew to importance and hired assistants his work became the product of a shop, but still handmade. Little by little he found ways and means of shortening his labors without detriment to his product. Finally machines were devised to do much of his work for him; in fact, the huge populations of today can be provided in no other way with the things they need. Soon the machine became the master and we find men almost believing it could do their thinking for them. Quick production displaced sound production and industrial art became an ugly thing. With the ugliness of the individual pieces available it became impossible to furnish homes attractively. Standards of culture slumped.

Today we find ourselves on the upgrade again. We have discovered the limitations of these great factories and have learned something of their real advantages; we are using their fine machines as tools, holding them to their task, but counting upon our designers and material experts to check on them, to feed them properly. Designs are improving in scores of products used in home furnishings and clothing. We are beginning again to see art in these fields, to renew the assurance that art is not limited to paintings, sculpture and sometimes buildings, to poetry, music and sometimes theatres and the dance. Let us keep step with this revival of standards in the industrial, the decorative, or shall I say the domestic arts.

We have to aid us two great agencies: the museum of art and the store. One preserves the fine things of other days, the other offers in fascinating variety the designs, good and bad, of the throbbing present.



Courtesy Vermont Marble Company

DETAIL SHOWING MARBLE FLOOR, WALLS, AND CEILING IN ENTRANCE HALL OF HAMILTON COUNTY COURT HOUSE, CINCINNATI, OHIO

RANKIN, KELLOGG & CRANE, ARCHITECTS

ENGINEERING

and

CONSTRUCTION

BELLEVUE-STATEN APARTMENTS, OAKLAND
H. C. Baumann, Architect

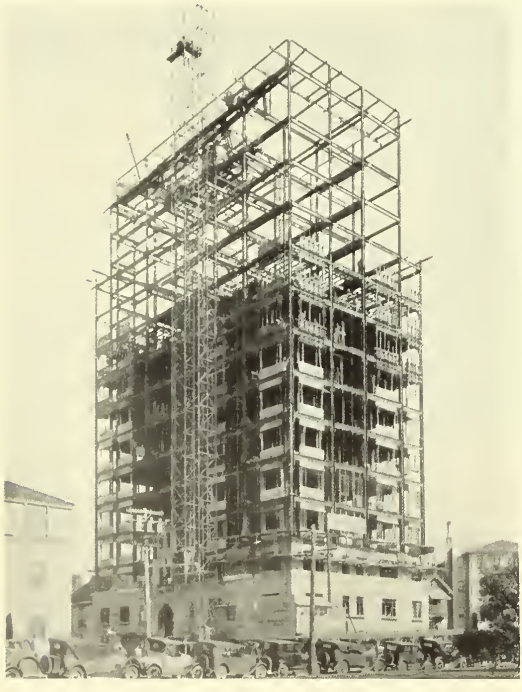
Featuring

Steel Frame Designed to Resist Earthquake and Fire

A STEEL FRAME DESIGNED to RESIST EARTHQUAKE and FIRE

By
I. E. Perrin

THE Bellevue-Staten Apartments, recently completed, and situated on the northern shores of Lake Merritt, Oakland, California, is admittedly one of the finest structures of its kind on the Pacific Coast. Rising sixteen stories from the ground, this apartment stands majestically over all other surrounding buildings being the tallest structure in the Lake district, and with the exception of the city hall, the highest in Oakland.



STEEL FRAME OF BELLEVUE-STATEN APARTMENTS, OAKLAND

In deciding on the structural frame, great care was exercised in the selection of materials best suited to withstand earthquake shocks. It was found that this could be best accomplished by the use of a structural steel frame.

Sixteen and fourteen inch Bethlehem rolled steel columns were used throughout with Bethlehem eye beam and girder beams for the floor construction.

Specially designed brackets were used for beam and column connections throughout the building, these brackets providing the necessary lateral stiffness for the building during any earthquake shock.

An unusual construction feature was that no piling was necessary under the piers as hard pan was found a few feet beneath the surface. The north shore of Lake Merritt is less than a block from the site and it was at first thought that the driving of piles would be necessary, which is the condition on most construction contracts near the lake.

The Pacific Coast Engineering Co., of Oakland, fabricated and erected the structural steel frame in the record time of eighty days from the signing of the contract. This was remarkable time considering the fact that the plain steel had to be rolled in the East and shipped through the Panama Canal to the Coast before being

fabricated. There are approximately 1,750,000 pounds of structural steel in this building. The shapes were rolled by the Bethlehem Steel Co., at Bethlehem, Pa., and shipped via Calmar Line vessels to Oakland. The boats docked at the newly constructed wharves of the Port of Oakland and the plain steel was reshipped via rail to the shops of the Pacific Coast Engineering Company for fabrication.

* * *

The State Board of Harbor Commissioners having realized the permanency and durability of structural steel, are now incorporating this type of construction in the building of all their new warehouses on the San Francisco waterfront.

An unusual feature in connection with the construction of the warehouse itself is the method used in building the sidewalls. Concrete slabs are cast in wooden forms on the ground adjacent to the side walls of the building. These slabs are reinforced with deformed bars and range in size from eight feet to 26 feet long by five feet high. After curing for a period of 30 days the precast slabs are stripped and cleaned and prepared for erection.

After the structural steel frame is erected a poured-in-place-wall one foot high is cast on two sides and one end of the building, forming a base on which to set the precast slabs.

The precast slabs are then placed one upon the other from the concrete base to the roof, forming the sides of the building. The front, or inshore end, of the building is cast in ornamental concrete.

The slabs are held in place in the following manner:

Malleable iron inserts are cast into the slabs to take a T head bolt. As the slabs are being erected the head of the bolt is placed in the insert and turned, forming a lock, These bolts occur slightly to one side of the flange of the column and a malleable iron offset washer is placed on the bolt, at the same time grasping the flange of the steel column. The four bolts in the slab are then tightened with a lock washer and a nut. Where the slabs set one upon the other a groove the full length is cast top and bottom. As the slabs are being placed a coil spring is laid in this groove and grouted in, the spring acting as an expansion joint. The steel frame itself must be erected with the greatest of accuracy as the engineers require that the outside face of all columns be within one sixteenth of an inch in line. This is necessary as the precast slabs lay flush against the column flanges and any misalignment may put severe stresses in the slab, eventually cracking same.

STEEL FRAME WAREHOUSE ON WATERFRONT, SAN FRANCISCO

The Pacific Coast Engineering Company recently completed the erection of 1500 tons of structural steel for the four warehouses on Pier No. 45 and also handled and erected 1450 precast clabs for the general contractors, MacDonald and Kahn.

The company at the present time is furnishing and erecting about 1000 tons of structural steel for the two warehouses on Pier No. 48, San Francisco. These two warehouses will have a total of 700 precast slabs. Lochiel M. King is the general contractor on this last improvement.

The ARCHITECT'S VIEWPOINT

- *Home Owners Confused by Magazine Articles*
- *More Anent the Modern Trend*
- *Stock Plans Again Under Discussion*

CONTRIBUTING EDITORS
WILLIAM C. HAYS . . *San Francisco*
CARLETON M. WINSLOW . *Los Angeles*
HAROLD W. DOTY . . . *Portland, Ore.*
CHARLES H. ALDEN . . *Seattle, Wash.*

THERE have long been conflicting opinions among the architects about the factors that would improve architecture the most. Some men have said that we can only expect to see better buildings when we have better architects, while others argue that an enlightened public will be the cause of a new renaissance in architecture. One thing is certain, and that is, in the main the public will be served, and the architect of ability cannot get far without an appreciative, if small, following.

Although the lay taste is improving, its improvement has not kept pace with the advancement that architecture has made in America in recent years. In every large city in this country there are clever and able architects who are not doing nearly as much work as they should do, simply because their design is too restrained and fine for the taste of the average man who builds.

The various magazines, especially those like *House Beautiful, House and Garden, Arts and Decoration,* and others that reach a large number of lay readers, have accomplished much in improving taste in architecture. This moulding of public taste is a real task, considering the difficulty of presenting material so that it will be of greatest value to architecture. Extreme care has to be taken in the selection of photographic examples, otherwise the effort has a reverse effect and is damaging.

There has been a tendency for magazines reaching the public to a considerable extent, to popularize certain details of architecture, such as "period rooms," "textured walls," "modernistic furnishings," and so on, illustrating examples without the statement that these things are not to be copied, and that they must not be brought together, or the result will be a hodge-podge. Almost every architect has had some fair client bring to him, and to his dismay, photographs clipped from magazines, of a fireplace, a stairway, a window, a fence, a roof line, all to be incorporated in her new home. The fair client was not wholly to blame, for her impression of architecture was based on what she had read and seen in the magazines. She had been led to believe that the producing of beautiful architecture was a selective process. It is but only in selecting the architect.

No attempt should be made to give a greatly boiled down, highly concentrated course in architecture to the layman, for as some sage has said, "A little knowledge is a dangerous thing." A lady who had studied architecture in this concentrated form went to an architect's office with her husband to talk about their contemplated home. She took with her some sketch floor plans, which she had made. The architect noted that there were no dimensions marked thereon and that the Living Room and the Pantry were identical in

size. Being a diplomat, he asked how large the Living Room was to be. The fair client said "Twenty by forty." Whereupon the architect asked, "But surely you do not want the Pantry twenty by forty?" Here the husband interrupted for the first time, and said, "Grace, dear, you had better insist on having your sketches carried out as you have drawn them, you have worked so hard."

* * *

ONE phase of the present modernistic tendency in design which is most refreshing to some, is that it is such an effective counter-irritant for "antiqueing," which had reached a virulent state, the high temperature mark being "skintled brick work." All of the beautiful old textures which came naturally, such as the adzing of timbers, the lichen covered sagging roofs, the moss covered stone walls, crudely built, had inspired our architects. They were carried away with a desire to bring back the past, which led them into a maze of self conscious monkey shines. All proper regard for material was lost. They smeared and they cracked, they nicked and they gouged, they destroyed and then repaired. The skilled artisan was told he would have to learn to play havoc with his material instead of using it in a sensible way. No cottage hearth was complete without its iron pot on the crane, a blunderbuss hanging above, and a spinning wheel nearby.

The modernist makes the statement that self-imposed dilapidation has no place in this age, the day of the radio and airplane. Things shall be made practical, efficient and shipshape. We will not have to fear that all romance will be lost, even if the romance of a turreted wall and a drawbridge will be. A new and different interest will take its place.

* * *

THE remarks made in the last contribution to this column by this writer concerning stock plans were directed chiefly against a privately owned corporation which conducted a recent house competition. Although the houses in the first book this organization published were small, many of the prize and mention designs in the last competition would cost twenty thousand dollars and more to construct.

It is contended that a house of this size is of sufficient import to warrant the employ of an architect, at least from the architect's standpoint, and especially from a Portland, Oregon, architect's standpoint. The standpoint being that of making a living. It is my prediction that if plan bureaus, institutes and similar corporations are properly encouraged in the future, plans for any type of building will be available in the same way, and at bargain prices. Then what will become of the architect?

Another contributor to this column stated that the plan bureau stock plans were comparable to ready made clothes and filled the same sort of need. In the case of very small houses this undoubtedly is true, and especially in the sparsely populated areas of our country. However, in the cities there are usually many young architects who can and do design comparatively small houses, and in their case the advertisement in the tailor's window tells the story. "You pay for a tailor-made suit, why not have one?"

HAROLD W. DOTY, A. I. A., Portland, Ore.

EDITORIAL CHAT

DURING the past forty years, American architecture has undergone a very marked transformation and we have progressed from a period when architecture was of a style which was solely of foreign extraction to the present when our buildings can rightfully be called magnificent achievements of a design and treatment which is distinctly American.

The buildings which were erected in the latter part of the 19th century, gave expression principally to French architecture. American architects of the time had, to a large degree, received their training in Parisian schools as France was foremost in architectural education and it was quite natural for the architects to reflect this influence in American buildings. It was a period when architectural treatment of buildings found expression in curves and the buildings were adorned with pinnacles, turrets and bay windows. Decorative sculpture was the vogue and architects were given the greatest freedom in ornamentation with the result that the structures were developed along monumental lines with little thought given to the fundamentals of utilitarian design.

Following this period, fashion turned to examples of classical renaissance. This type of archeological architecture with its Doric, Ionic and Corinthian columns enjoyed its greatest development in our eastern cities, but saw its principal application in buildings which were more or less of an institutional character.

William E. Malm, President of the Cleveland Association of Building Owners and Managers, in a recent address at Boston before the National Association of Real Estate Boards, credits the architects of Chicago with being first to break away from Old World architecture and substituting a style which is undeniably American both in design and plans. To quote Mr. Malm:

"The best architecture has always been the product of slow evolution from traditionally accepted forms, and from the conglomerate mass of many styles emerged the present office building which is truly American in design, treatment and mechanical layout. It derives its beauty from simplification of mass treatment and not from detailed embellishments, and further demonstrates the architect's ability to fulfill modern needs in forms of genuine beauty. As it is not cumbered with festoons and garlands and lacks unsightly cornices and massive columns, this type of building will not present to the owners of the future the serious problem of modernization which the old building does today. When the present structures approach the end of their economic life they will be more amendable to rehabilitation, due principally to their steel frame and simplicity of treatment.

"Architectural change has closely followed the development of new materials and improved mechanical equipment and there is no stopping the upward progress of present structures. They spring from fundamental necessity and not from fancy. In them has been incorporated every type of material and mechanical creation which makes for greater economy in the construction, long life, improved plan efficiency and low maintenance cost, and they are being developed with a keen appreciation of symmetry and beauty."

* * *

WHY not an Architectural and Industrial Arts Exposition in San Francisco? The combined Pacific Coast Chapters of the American Institute of Architects could lend their support just as the combined Southern Chapters of the Institute sponsored the Exposition now in full swing at Memphis, Tenn. The affair is intended to acquaint the public with development of better architecture in the South, in which, it is said, great strides have been made in recent years as the result of an artistic awakening.

During the Exposition the Board of Directors of the Institute will hold sessions, President C. Herrick Hammond of Chicago presiding. Questions affecting architecture nationally will be taken up. Edwin Bergstrom of Los Angeles, treasurer of the Institute, will submit a report as chairman

of the Committee on Constitution and By-Laws.

Other events of the week are a regional conference of all the Southern Chapters, and sessions of the Producers' Council, which is composed of manufacturers with headquarters in New York, and with which the Institute is affiliated.

The Exposition, which, the announcement stated, "means the birth of a new day for architecture and the allied arts in the South," most assuredly should be followed by similar expositions in other regions of the United States.

The exhibits include examples of the work of the architects, and of displays embracing building materials, and examples of craftsmanship. The Exposition should afford recognition of the architect, the contractor, and the artisan. Gold medals will be awarded for meritorious achievement. Public lectures on architecture, painting, sculpture, and the allied arts will be given.

* * *

I WAS amused reading the impressions of the editor of *Architecture* of his recent trip to the Pacific Coast. He says Carleton Winslow told him to be sure and "take in" Agua Caliente, "the Deauville of America." Am curious to know how Mr. Winslow enjoyed ye editor's description of the resort. Several hundred words were used to describe his air passage to the Mexican border but only twenty-one words were needed to sum up his impressions of Agua Caliente: "The so-called 'American Deauville' failed to interest me, once my supposed reservation had been repudiated by a harassed room clerk." And he's not the first one who has failed to connect for overnight accommodation in the Mexican town. The same trouble was experienced at Tia Juana and our friend of the Fourth Estate beat it across the border to the United States without further sight-seeing.

This New York editor seemed not wholly pleased with his visit to San Francisco. He writes of calling upon architects, most of whom "appeared elsewhere at the moment." (The date of his visit was August 15th, a time when most of the architects are absent on their vacations). Referring to some of the buildings which he observed while in San Francisco, the following paragraphs are interesting:

"Lewis Hobart is completing a rather unusual combination of tall hotel and a Methodist church out near the Civic Center.

"A tall building with windows at the corners, such as is the modern manner in Germany and Holland, is being essayed by Miller & Pflueger. The latter have worked out what seems to be an unusually successful expression of reinforced concrete frame with terra-cotta facing in their Physician's and Dentists' Building on Sutter street. There is an equivalent of eight floors of ramp garage below, parking all done on the gentle ramp itself, with offices, laboratories etc., above. Here the vertical lines set apart the corner bays of windows in a much more logical way than the curved horizontal used abroad." —F. W. J.

ARE AMERICAN BUILDINGS DESIGNED FOR PERMANENCY?

(Editor in Stone Magazine)

American buildings are not designed for permanency, according to no less an authority than Harvey Wiley Corbett, the architect, who made the statement before the Indianapolis Building Congress at a recent dinner. He said that American architecture differed from European in this respect of permanency. We do not know whether Mr. Corbett, or any other authority, has sought to stabilize our American population or to curb real estate markets and development in order to make buildings more permanent. Like all other observers of American architectural trends, Mr. Corbett must realize that in America we have none of the traditions that make for permanency or which bind individuals to localities. Whole cities move in this country, business sections change almost overnight, residential districts spring up, enjoy temporary popularity and then their lights fade and others attract home seekers. Only in staid old communities can it be said that American residences are more or less permanent and it is in them that the best American residential architecture is seen. In a generation or so we will begin to develop those traditions that have made European home architecture stable and permanent and, even now, we find the new era opening out before us with a wonderful opportunity to create and build for the future with materials like those used in the old homes of Europe about which Mr. Corbett refers.

WITH *the* ARCHITECTS

PRIVATE AUDITORIUM

Construction is going forward on an auditorium for the Whittell estate in Woodside to cost $75,000. Plans were drawn by A. H. Knoll, architect, with offices in the Hearst building, San Francisco, who has also been commissioned to remodel the residence of S. S. Saslaw in Atherton. Included in this work will be additions and improvements in the gardens and bronze entrance gates.

SPANISH RESIDENCE, SAN FRANCISCO

Masten and Hurd, 310 Post street, San Francisco, have completed plans for an $18,000 Spanish type residence in St. Francis Wood, San Francisco, for Jules H. Bernheim. These same architects have prepared plans for an automobile sales building and garage, contract for which has been let to Barrett and Hilp.

MIRA VISTA RESIDENCES

An Italian type residence is being designed by James T. Narbett and Son of Richmond, for E. M. Downer, 570 Excelsior avenue, Oakland. The house will have ten rooms and three baths and will be built in the Mira Vista tract. A second house in this tract is being designed for M. Hazelton.

CONCRETE HOSPITAL BUILDING

Working drawings are practically completed for a reinforced concrete hospital to be built at Ventura, for the Big Sisters Hospital Association. The architects are John C. Austin and Frederic M. Ashley, Chamber of Commerce building, Los Angeles.

OAKLAND BANK BUILDING

Plans are being prepared by Albert F. Roller of San Francisco, for a $60,000 two story concrete and terra cotta bank building on Broadway, between 13th and 14th streets, Oakland, for the Pacific States Savings & Loan Society.

LIVE STOCK BUILDING

The State Fair Grounds, Sacramento, will be improved the coming year with a new live stock building now being designed in the office of the State Architect, George B. McDougall, Sacramento. There is an appropriation of $200,000 for this structure.

CHRISTIAN SCIENCE CHURCH

Morris H. Whitehouse and associates, with C. H. Wallwork as consulting architect and A. H. T. Williams as structural engineer, are preparing plans for a new Christian Science Church which will be Italian in design, of reinforced concrete with veneer and terra cotta trim, and clay tile roof.

SACRAMENTO APARTMENT HOUSE

Eugene J. Seadler of Sacramento, has completed plans for a five story concrete apartment building which will be built on the northwest corner of 15th and "N" streets, Sacramento, by a group of San Francisco and Los Angeles capitalists. The investment will cost $250,000.

JUNIOR HIGH SCHOOL BUILDINGS

Messrs. Shea and Shea, San Francisco architects, are completing working drawings for a $400,000 group of Junior High school buildings, for the City of San Francisco. Besides classrooms, there will be an auditorium and gymnasium.

STOCK BROKERAGE OFFICE

A new stock broker's office will soon join the ever increasing number along Montgomery street, when McCreery and Finnell, open their new quarters, designed by S. Heiman. The improvements will cost approximately $12,500.

HONORED BY HOOVER

William Adams Delano, president of the New York chapter of the American Institute of Architects, has been named by President Hoover as a member of the National Capital Park and Planning Commission.

LOS ANGELES MAUSOLEUM

In Los Angeles, at Calvary Cemetery, an all Italian marble and bronze mausoleum is being constructed by Arnold Constable, San Francisco, architect, for Miss Trixie Freganza. The ultimate cost will be $9000.

$46,000 SAUSALITO HOME

A $46,000 residence is soon to be constructed in Sausalito for Mr. Scatena, from plans by Charles Strothoff. The contract has been awarded to Jacks and Irvine.

DESIGN APARTMENT BUILDINGS

Irvine and Ebbets, Call building, San Francisco, have completed plans for a three story frame and stucco apartment building, to go on North Point street, east of Broderick, San Francisco, for B. Rasmussen. The building will cost $40,000.

H. L. Lindeman will be the owner of a $50,000 apartment building in the Marina district, from plans by Messrs. Irvine and Ebbets.

Edward Jose is building two six-story Class A steel and concrete apartment buildings at Gough and Jackson streets, San Francisco, at a cost of $750,000. Plans for both buildings were prepared by Messrs. Irvine and Ebbetts.

WARREN WINS

The Louvain Tribunal recently pronounced judgment in favor of Whitney Warren, New York architect, who designed the reconstructed Louvain University, in his dispute with the University over an inscription to be placed on a ballustrade of the library. The inscription which commemorated the destruction of the University by "Teutonic fury" was considered objectionable because it tended to revive memories of war-time hatred.

ARCHITECTURAL APPRECIATION

The Architectural Department of the University of Washington began its academic year Tuesday, October 1st, with an enrollment of considerably over two hundred. A popular course conducted by the Architectural Department and open to all students of the University is in Architectural Appreciation for which 157 students have already enrolled.

WM. P. DAWSON

William P. Dawson, 40, Los Angeles architect, died suddenly at Santa Monica as the result of a heart attack. Mr. Dawson was a graduate of the University of Pennsylvania. He came to Los Angeles in 1923 from Portland, Ore., where he had practiced his profession for several years, and at the time of his death was associated with Charles F. Plummer.

GARREN TO LECTURE

William I. Garren, architect, will give a series of illustrated lectures on Modern Architecture in the Blanding Sloan Puppet theater, 718 Montgomery street, San Francisco, on the first three Wednesdays of November.

PERSONALS

Walter T. Steilberg, Berkeley architect, addressed the Channing Club of Berkeley, October 6th, on the subject "Considerations of Design in Modern Architecture."

Howard G. Bissell, architect, Stockton, announces dissolution of the partnership existing between himself and F. V. Mayo. Mr. Bissell will continue to maintain offices at 421 East Main street, Stockton.

John Devereux York, architect, is now located in Phoenix, Ariz., and has established an office at 91 Columbus Avenue. He desires catalogs and samples of building materials.

Houghton Sawyer, architect, formerly located in the Hearst building, San Francisco, has opened new offices at 337 17th street, Oakland.

Jos. L. Stewart, architect, announces the removal of his office from 703 Market street to 211 Holbrook building, San Francisco.

S. Heiman, formerly at 57 Post street, San Francisco, is now occupying offices with Carl Werner at 605 Market street. Mr. Lamb, formerly in the office of Mr. Werner, is now in the office of Edwards & Schary, at the same address.

Robert H. Orr has been appointed a member of the Los Angeles Building and Safety Commission to succeed C. E. Noerenberg, who has been a member of the commission for the last four years, his term having expired.

CERTIFICATE TO PRACTICE

Under the heading "Certificates" of the Rules and Regulations of the California State Board of Architectural Examiners, Section II, appears the following: "The District Boards shall, after granting provisional certificates to applicants, publish the names of such applicants in an architectural or daily building journal, appearing in both districts of the State. The following person was granted a provisional certificate at a meeting of the State Board September 24th, 1929:

W. L. Schmolle, 519 California street, San Francisco.

GRANTED CERTIFICATES

At the meeting of the State Board of Architectural Examiners, Northern District, on October 29th, 1929, the following were granted Provisional certificates: Harold F. Genss, 2249 Ward street, Berkeley, and Earl R. MacDonald, 194 John street, Oakland.

SAN JOSE COMMERCIAL BUILDING

Plans have been completed and bids have been taken in the office of George De Colmesnil, Nevada Bank building, San Francisco, for a $65,000 store and loft building in San Jose, which has been leased to the Sears-Roebuck Company. Mr. De Colmesnil has also prepared sketches for a four story reinforced concrete department store building in San Jose, for Hale Brothers, Inc. Construction of this latter building, however, will not go forward until some time next year.

SIX STORY APARTMENT BUILDING

Casebolt Dakin, architect, with offices at 319-13th street, Oakland, has completed drawings for a six story steel frame and concrete apartment building to be built for himself and Harry Schuster, on Park Boulevard and Emerson street, Oakland. There will be twenty-five residence apartments, and a thirty-six car garage. The improvements are estimated to cost $200,000.

OAKLAND TIRE SERVICE STATION

Plans are being completed by C. W. McCall, 1404 Franklin street, Oakland, for a one story and basement Class A service and display building, for the Firestone Tire & Rubber Company. It will be built near the old St. Mary's College property on Broadway, near 30th street, Oakland. Plans for this $100,000 structure will be out for bids, November 15th.

NEW SAN FRANCISCO FACTORY

Meese and Gottfried Company have awarded a contract to the Austin Company of California to design and erect a group of reinforced concrete factory buildings on Paul avenue, near San Bruno, San Mateo County. The estimated cost of the new plant is several hundred thousand dollars.

SAN LEANDRO STORE BUILDING

E. W. Cannon, Oakland architect, has completed plans for a one story brick and tile store building to be erected on the site of the old Estudillo house, one of the landmarks of San Leandro, Alameda County. The property is owned by the Sylvian Godchaux Estate, E. E. Kahn, trustee.

NEW SAN FRANCISCO SCHOOL

William H. Crim, Jr., has been commissioned to prepare plans for a Class A Junior high school building, to be built at 25th and Noe streets, San Francisco, at a cost not to exceed $650,000.

HEADS MUNICIPAL LEAGUE

Gordon Whitnall, director of the Los Angeles City Planning Commission, has been elected president of the League of California Municipalities. Mr. Whitnall is planning important activities to be carried out under his administration. Henry S. Gierlich, city engineer of Monrovia and president of the City and County Engineers' Association, was elected president of the Engineers' and Street Superintendents' Section of the League of California Municipalities. Long Beach was selected as the place for holding the 1930 convention.

BANK BUILDING

Messrs. Tourtellotte & Hummel are architects for the Grants Pass and Josephine bank and office building, to cost $50,000. Plans call for a structure of classical design, changing the present 50x50 foot building to cover an area 100x50 feet.

LOS ANGELES OFFICE BUILDING

Plans are being prepared in the office of S. Charles Lee, Los Angeles, for a three story and basement reinforced concrete store and office building at Wilshire Boulevard and Kingsley Drive, Los Angeles, for S. Malsman. The estimated cost is $150,000.

SIX STORY HOTEL, VENICE

Harrison B. Traver, 1008 West 6th street, Los Angeles, has completed drawings for a six story Class A hotel for Phillip Goldberg. The estimated cost is $125,000. The location is the southwest corner of Windward avenue and Trolleyway, Venice.

BRICK HOTEL, LOS ANGELES

James F. Fay is the owner of a four story brick hotel, to be built at 551 South Oxford avenue, Los Angeles, from plans by Gable and Wyant, Los Angeles architects. There will be 160 rooms.

MONTEREY COUNTY BUNGALOW COURT

Plans have been completed by Clay N. Burrell of Oakland for a brick bungalow court in Monterey for Mrs. Henrietta Pierce. There will be eight four room apartments. The estimated cost is $35,000.

CARMEL BANK BUILDING

Plans have been completed in the office of H. H. Winner, San Francisco, for a $50,000 reinforced concrete bank building at Carmel for the Monterey County Trust & Savings Bank.

COMPETITIONS

WAR MEMORIAL—CHICAGO

Final announcement to all architects residing in the United States:

The Chicago War Memorial Committee, a group of leading citizens, offers a first prize of $20,000 and a second prize of $5,000 to designers of a War Memorial to be located on the shore of Lake Michigan at the extension of Congress street.

The Jury of Award will be Mr. Abbott, Col. McCormick, Col. Savage, Mr. Simpson and Col. Sprague as lay members, and Harvey W. Corbett, Ernest R. Graham, John Mead Howells and Dean Everett V. Meeks as professional members.

The War Memorial Committee of the City of Chicago proposes to erect a memorial dedicated to those who served in the great World War. It will occupy a most important position on the shore of Lake Michigan and at the termination of Congress street, the principal axis of the city of the future.

It is the desire of the committee to obtain a design which, when built, will adequately memorialize the sacrifices of all who served in the war and in a manner relating not inharmoniously to the adjacent architectural and landscape elements of Grant Park and the Yacht Harbor.

The competition is to be nation-wide and is open to qualified architects residing in the United States. Eleven architectural firms are especially invited to submit designs and they will receive compensation of $1,000, but other competing architects will receive no compensation other than the opportunity to win one of the prizes. Those invited to compete are:

Raymond H. Hood, Voorhees, Gmelin & Walker, Paul Cret, H. Van Buren Magonigle, James Gamble Rogers, Eliel Saarinen, Burnham Brothers, Nimmons, Carr & Wright, Holabird & Root, Bennett, Parsons & Frost, and Benjamin H. Marshall.

The committee has appointed Earl H. Reed, Jr., 435 North Michigan Avenue, as its professional adviser in the conduct of the competition. Those wishing to participate are instructed to file application with Mr. Reed. Drawings are to be sent to him and must be received not later than 12 o'clock noon on November 25, 1929.

WINS FIRST PRIZE

E. Mussa, member of the office staff of Bennett & Haskell, submitted the winning design for a music shell to be built in Memorial Park, Pasadena. The competition was confined to members of the Pasadena Architectural Club. The jury consisted of Robert L. Dougherty, Ernest A. Batchelder, Myron Hunt, Edgar Maybury and Alson Clark. The shell will be 65 feet long and contain about 1200 square feet of stage space.

MORE ARCHITECTURAL EXHIBITS

A special exhibition of the work of David J. Witmer and Loyal F. Watson, Los Angeles architects, will occupy the exhibition rooms of the Architects building, Los Angeles, November 1st to November 15th. The last two weeks in November will witness the work of Wallace Neff, well-known Pasadena architect, on display in the same locality.

Messrs. Witmer and Watson recently won national recognition in the Small House Competition, held by the *House Beautiful* Magazine. They were two of the five California architects who won Honorable Mentions. They plan to display about 100 photographs and sketches of recent and proposed work. Witmer & Watson do not adhere to any one particular type but excel in various styles of architecture.

Wallace Neff's exhibit promises to be one of the most interesting and successful ones of the year. It will consist of sketches, photographs and colored renderings of some of the best known residences in Pasadena, Beverly Hills, Los Angeles and surrounding territory.

Richard Requa's exhibition of "Picturesque Old World Architecture," created quite a sensation in the Exhibition Rooms of the Architects building, October 15th to 30th. Mr. Requa is a San Diego architect, and recently spent considerable time in Southern Europe and Northern Africa, photographing historic places, graceful and unusual wrought iron balconies, stairways and gateways. He obtained some exquisite shots of the Alcazar Gardens, Seville, the Alhambra, interiors of old palaces, such as the Duke of Alba's in Seville, quaint little villages, and exteriors of stately cathedrals.

LOS ANGELES CLUB BUILDING

Plans are being prepared in the office of Roland E. Coate, Architects' building, Los Angeles, for a new $300,000 building for the Automobile Club of Southern California.

HUNTINGTON PARK SCHOOL

George M. Lindsey and Erwood P. Eiden, associated, Los Angeles, have completed plans for the new Huntington Park Union High school building, estimated to cost $300,000.

SOCIETY and CLUB MEETINGS

CONVENTION OF STATE ASSOCIATION OF CALIFORNIA ARCHITECTS

THE second annual convention of the State Association of California Architects was held at the Beverly Hills Hotel October 11th and 12th. Architects from every section of the state were present and from the interest and enthusiasm manifested in the meetings, it would seem that the Association is destined to become an important and influential factor in the building activities of California.

* * *

Del Monte Next Year

The last two conventions have been so successful that the members have commenced to plan for the next one already. W. O. Raiguel, former San Francisco architect, and now practicing on the Monterey Peninsula, was present at the convention to advance the cause of Del Monte as the place of meeting in 1930. Because of its beautiful scenery and romantic atmosphere the delegates were unanimous in their selection of Del Monte as the scene of the next convention.

* * *

High Lights Of Meeting

Outstanding features of the Beverly Hills meeting were the endorsement of a proposal for compulsory education in the fine arts and architecture, approval of a movement to secure more practical curriculum and higher standards in architectural education, decision to publish standard documents for the special use of California architects in conformity to the amended law regulating the practice of architecture and a discussion of earthquake-resistant construction.

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Three Business Sessions Held

Three business sessions of the convention were held, two Friday and one Saturday morning. That on Friday morning was devoted to opening formalities, the address of the state executive chairman, A. M. Edelman, the report of the secretary-treasurer, W. I. Garren of San Francisco, and the appointment of committees. The delegates to the convention were welcomed to Beverly Hills by Treasurer Scanlan of the Beverly Hills Chamber of Commerce, who was introduced by John C. Austin, vice-president of the Los Angeles Chamber of Commerce. The report of the secretary-treasurer showed a substantial balance in the funds of both the Southern and Northern Sections.

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Committees Are Named

Announcement was made of the appointment of the following committees:

Credentials—Henry P. Sabin, Los Angeles, chairman; Ralph Flewelling, Beverly Hills, and E. L. Norberg, San Mateo.

Resolutions—Henry C. Collins, Palo Alto, chairman; Leonard F. Starks, Sacramento; John S. Seibert, San Diego, and D. J. Witmer, Los Angeles.

Constitution and by-laws—R. C. Farrell, Los Angeles, chairman.

Place for 1930 convention—Harris C. Allen, San Francisco, chairman; E. F. Flanders, Sacramento; W. O. Raiguel, Del Monte; Myron Hunt, Los Angeles, and L. N. Crawford, Santa Monica.

* * *

President Given Fine Support

Some of the high lights of President A. M. Edelman's address follow:

"The Committee on Professional Betterment has made a wonderful effort to organize a speakers' bureau; but I regret to report that they have not received the support they should have received from the members in the way of offers to appear before organizations for the purpose of speaking on architectural subjects. As a matter of fact, only about 5 per cent of the total membership replied to the questionnaire sent out by the speakers' bureau, asking the members for information on subjects on which they wished to talk. I recommend that this committee should receive your full co-operation which it must have, in order to be successful.

"Let me at this time also make special reference to the fine spirit of co-operation shown by Messrs. H. F. Withey, Sydney Orme, R. A. Curry, Kenneth Mac-

Donald, Jr., and Harry Hayden Whitely for the hearty response they have made in giving talks over the radio through the School of Architecture of the University of Southern California.

University Helps To Educate Public

"The University of Southern California is endeavoring in this manner to interest and educate the public as to what architecture is; likewise the value of an architect's service and also how to protect the heritage of natural beauty of our state, and to assure the commonwealth that by engaging the services of able architects, structures designed by them will enhance and protect that natural endowment. I heartily endorse this movement and I recommend that all members who can should assist the University of Southern California in its endeavors.

* * *

Work Ahead For Legislators

"Our Legislative Committee has not been called on to do a great deal of work during the past year for the reason that prior to the time of its appointment the amendments to the new act had been very thoroughly discussed by the Executive Board; and after the appointment of the Legislative Committee it was felt that it would not be advisable to turn over to them at the eleventh hour any work in connection with amendments to the old act But I can assure the committee that during the coming year its members will be asked to give the new act a thorough going over with a view of having amendments ready to present to the Legislature at its next session, and I recommend that all members send in to the committee such suggestions for amendments they may desire."

* * *

Bergstrom Is Luncheon Speaker

Edwin Bergstrom, one of the editors of the Uniform Building Code for California, was the principal speaker at the luncheon Friday noon. Mr. Bergstrom outlined the history of the movement for the uniform code which had its inception with the Pacific Coast Building Officials' Conference and was subsequently taken up by the California Development Association, now the State Chamber of Commerce, as a solution of a critical situation in the building field caused by exorbitant rates for earthquake insurance imposed by underwriters following the Santa Barbara earthquake. The immediate result of this action was a substantial reduction in earthquake insurance rates with a promise of further readjustment when the uniform code is completed and put into effect.

Standard Documents

At the Friday afternoon meeting reports were heard from the Professional Betterment Committee followed by a discussion of earthquake-resistant construction. Lester W. Hurd, chairman of the committee for the Northern Section, presented the report of the Professional Betterment Committee, which explained at length what had been done in the matter of preparing standard documents for the special use of California architects under the revised law regulating the practice of architecture. The committee recommended that these documents be published either by the American Institute of Architects or by the state association, and urged that competent legal advice be secured in their final preparation.

Two reports were submitted from the Committee on Education, one by Geoffrey Bangs, chairman for the Northern District, and the other by Sumner M. Spaulding, chairman for the Southern Section. Mr. Bangs reviewed the committee's study of the architectural courses in various institutions and the work attempted along this line in the public schools, pointing out the opportunities for improvement.

Mr. Spaulding proposed in his report compulsory education in the fine arts and architecture and presented an argument of this plan of creating public appreciation of architecture.

Charles F. B. Roeth of Oakland presided at the Saturday morning session. The report of the Committee on Public Information was presented by the chairmen of the Northern and Southern Sections.

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New Contractors' License Law

William Simpson of the William Simpson Construction Co., Los Angeles, spoke on "The New Contractors' License Law and Its Relations to the Architect." He summarized the provisions of the law and urged the co-operation of architects in its enforcement. Answering questions regarding the law, Mr. Simpson stated the Registrar of Contractors had ruled that an architect supervising construction under segregated contracts would not be considered a contractor.

Resolutions were adopted accepting the recommendation of the Professional Betterment Committee, authorizing the executive board to arrange for publication of the standard documents for the special use of California architects, in event the American Institute of Architects does not desire to publish them; endorsing the recommendations of the Committee on Education and sanctioning the plan of the Committee on

Public Information for publication of an architectural page in leading daily papers in the north and the south.

* * *

Earthquake Design Is Discussed

A paper on "Earthquake-Resistant Construction—Rigid Type," prepared by Henry D. Dewell, consulting engineer of San Francisco, and one of the editors of the Uniform Building Code now being drafted under the auspices of the California State Chamber of Commerce, was read by Melville Dozier, Jr., member of the American Society of Civil Engineers, Mr. Dewell being unable to attend.

H. J. Brunnier of San Francisco, scheduled to speak for the "Rigid Type" of earthquake-resistant construction, declared that he was not prepared to commit himself to any particular type, contenting himself with pointing out the lack of convincing proof as to just what an earthquake force is and how to combat it. He said that even the Japanese engineers, who had taken such a definite stand in favor of rigid construction, had admitted they were not so certain that their views or their assumptions were correct. Mr. Brunnier recognized the advisability of designing against lateral force, but had no definite theory or suggestion to offer that he regarded as commensurate with the problems involved.

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Officers for 1930 Named

John J. Donovan of Oakland will head the organization for the coming year, having been elected chairman of the executive board. A. M. Edelman of Los Angeles, who served as chairman the past year, was made vice-chairman. Richard C. Farrell of Los Angeles was elected secretary-treasurer, and William I. Garren of San Francisco was made assistant secretary-treasurer.

Members of the executive board of the State Association for the coming year are: John J. Donovan of Oakland, representing the State Board of Architectural Examiners, for the Northern District, and A. M. Edelman of Los Angeles, representing the board for the Southern District.

John C. Austin, Los Angeles, representing the American Institute of Architects for the Southern Section, and William I. Garren of San Francisco, representing the A. I. A. for the Northern Section.

Charles B. Roeth of Oakland and Mark T. Jorgensen of San Francisco representing the architects at large for the Northern Section.

Natt Piper of Long Beach and R. C. Farrell of Los Angeles, representing the architects at large for the Southern Section.

Banquet Proves Fitting Climax

Carelton M. Winslow, member THE ACHITECT AND ENGINEER editorial staff, chairman of the convention banquet, introduced John J. Donovan of Oakland as the toastmaster.

Among the guests were Senator Frank C. Weller of Glendale, Assemblyman James C. Crawford of Burbank, James F. Collins, director of the new State Department of Professional and Vocational Standards, under whose supervision the Act Regulating the Practice of Architecture will be administered, E. T. McGann, deputy city prosecutor of Los Angeles, and Bernard S. Wager, attorney for the State Board of Architectural Examiners, Southern District.

A. S. Nibecker of Los Angeles responded in a humorous vein to the toast, "The Ideal Established Architect," substituting for H. Roy Kelley who had been called east by the death of his mother. William I. Garren of San Francisco responded humorously to the toast, "The Ideal Editor," and Rupert Hughes of literary fame convulsed his audience with a rollicking ramble on "The Ideal Client."

A talk on "The Future Development of Washington," illustrated with pictures, given by Charles H. Cheney, chairman of the A. I. A. Committee on Regional and City Planning, concluded the program.

* * *

The Ideal Established Architect

Responding to the toast, "The Ideal Established Architect," A. S. Nibecker, architect of the Los Angeles Board of Education, said:

"When I was commissioned yesterday to handle this subject, my first thought was that I need not prepare anything beforehand. I just felt that somehow here was a subject full of possibilities and one that anyone could enthuse over, "The Ideal Established Architect."

"Here is a fellow-creature endowed with the genius to create and to build for man's comfort—enterprise and aesthetic enrichment—the diverse work of architecture which we see today. Here was a man working for a noble ideal, without selfish thought of gain or fame, striving with untiring zeal to promote civic betterment and the fine arts.

"Here was a man who by his example hopes to promote education and creativeness by taking into his office the budding young graduate, bidding him to use his library, periodicals and pencils, and personally assisting him with problems in design, even on work which the young man has secured to do outside of working hours.

"Here is a man who always offered to do a piece of work at a theoretically impossible fee; who *never* says to a prospective client who wishes to build a monumental structure for $1.25 a square foot, 'Mr. Dough, we shall be glad to make you some free sketches; although we may have to modify the project slightly, I am sure it can be done for the money."

"He will often mention the name of some deserving young architect for a project which he considers too small for his attention, tactfully suggesting that he cannot afford to take anything less than a $50,000 commission and offers only praise for the work of a competitive younger architect when his name is timidly mentioned by a client or contractor. Yes, here is a specialist doing only civic centers, Federal buildings, capital buildings, union stations, memorial buildings and churches.

"Arriving at his office at 10:30 a. m. each day except Wednesdays and Saturdays, which days are reserved entirely for golf and other forms of recreation, he greets the fair ones in the outer office with a smile and retires to his private office and first glancing over the schedule showing the value of work now in the office, he prepares to go through the jobs which are offered through the mail. Throwing aside the soap factory and various shops and flats, he checks the desirable projects and requests the daily report of the office manager.

"Then he is ready to interview callers, and they are always received in the order of their appearance, for he does not instruct his secretary to send in Mr. Spivens ahead of all the others just because he is Mr. Spivens of the Senate.

"Here is a man who is always glad to receive every draftsman seeking a job and never replies, "but for the lack of space he would be glad to put him on." He even listens to the suggestions of the structural and mechanical engineers that some reasonable space be allowed for beams, pipes, etc.; in fact, he even treats engineers as human beings—though some vague doubt may exist.

"Here is a drafting room equipped with plush top stools, lounges and radios for baseball results, where overtime is paid for double, and time clocks not allowed.

"He leaves the office at 12:30 p. m. and stops at the Wiltmore for lunch, proceeding to the Doe Rey Country Club for the afternoon's golf, where many large projects are born.

"Besides golf he has a hobby of some sort. It might be stamp collecting. This hobby can keep mind alert and cause material men and others to wait long unless they have an appointment.

"There are many such "Ideal Established Architects," and it behooves all young architects starting on the hard climb to take heed and first get wealthy."

* * *

The Ideal Young Architect

"The Ideal Young Architect" as seen by Sumner P. Hunt of Los Angeles, is described herewith:

"When I was a young architect, only a few years ago, it was the custom of preachers to use a text as an inspiration for their sermon. I am following that custom.

"When I was asked to say something about the ideal young architect, I was badly scared, as I always am when I am told I have to talk. While wondering what I should make the theme of my little talk I remembered something Robert Louis Stevenson had said that made a strong impression on me and which quotation I have always kept where I could look at it occasionally for the good it might do me. Here it is:

" 'To be honest, to be kind, to earn a little and spend a little less; to make, upon the whole, a family happier by his presence; to renounce when that shall be necessary and not be embittered; to keep a few friends, but these without capitulation; above all, on the same given conditions, to keep friends with himself—here is a task for all that man has of fortitude and delicacy.'

"I beleive the young architect who would adopt that quotation from Stevenson as a creed, substituting for the word 'family' his partners, his office force, his contractors and his clients, being honest and kind with them all, thus assuring that help from his associates without which no architect can succeed; spending a little less than he earns, because the knowledge of a small cash balance keeps one's mind free to think about worthwhile things; learning that when he has to give in to his clients' wishes it is at least an even bet that, if he is not embittered by this, his production will be the better for the change from his own conception; remembering that the object of creative art is to express something, and it might be a relief to observers to occasionally see a successful expression of the client's personality rather than the continued expression of a clever designer; keeping his friends without surrendering his own individuality; keeping his own self respect without being egotistical.

"This would be the ideal young architect and, providing he didn't become careless about his creed, he might grow up to be an ideal old architect."

Responding to the toast, "The Ideal Contractor," Albert J. Evers of San Francisco said:

The Ideal Contractor

"Some weeks ago a certain distinguished gentleman who presides over the destiny of one of our leading architectural magazines called me up and told me that I would be expected to say something at the convention dinner; that the committee had or would assign me a subject. He may even have told me the subject, but, as one does, I neglected my duty and gave little further thought to the whole matter, postponing the evil day, as it were. Today, I tried to think of what to say; tonight I realize that I'm up a tree. Am I to attempt the impossible; am I to conjure up a word picture of a heavenly being never to be realized in the flesh? I now strongly suspect that the committee was kidding me when they asked me to speak on "The Ideal Contractor." They probably knew this abstract ideal business would stump me.

"Now, of course, we all know a lot of contractors, and taking them in a large way and as you find them, a pretty good lot of fellows they are too. But *an ideal contractor!* What do you suppose we would do with one if we caught him, and who would be the judge as to whether or not he were or were not 'ideal!' Probably standards would differ radically, and one who might seem absolutely perfect, ne plus ultra a veritable Sir Galahad to me, would be just another contractor to John Donovan or Pierre Davis. Some ideal seekers would undoubtedly want a contractor who would draw his own scale and full-size details and also superintend his own work.

"I think, however, we can all agree that there are certain things, certain qualities, which any and all contractors must have who wish to be ideal. Undoubtedly, they should have plenty of good cigars and a handy locker which unlocks easily. Those are inherent qualities which they must have. Then again, they should always agree with the architect's estimate and put in a figure a little below said estimate; and to be super-ideal, they should be like a pianola—you feed them a set of plans and the building is built without further worry on the part of the architect!

"But after you have these qualities enumerated what comes next? It is just possible we may have to establish different classes of ideals. Our ideal contractor for the neighbor's garage may not be the ideal contractor for that 20-story building we thought we had, but for which we are informed from reliable sources some other fellow is now finishing the drawings.

"What is an ideal, anyway? We've heard the word so much tonight. Here it is on the program, again and again. I would say that an ideal is the dream of perfection—or something so good that it doesn't exist! But we can hope for it! Surely, hope springs eternal.

"And what about contractors? We think of building contractors, but really 'contractors' in a larger sense cover a much wider field. Almost any person who promises to do something for another is a contractor—provided the other fellow understands what it's all about and says, 'All right, go ahead.' When a youth says, 'Will you?' and she says, 'Yes' that's a contract and oh boy, it's a big one. If you consider it that way, maybe we're all contractors in one way or another.

"We all promise to do things for others and if they say 'O. K., go ahead,' we have a contract to fulfill, and bringing the old ideal subject up again, isn't the ideal contractor the man who does fulfill all of the obligations which he undertakes—to the owner, to his fellow-men and to himself? The best of professional service, ethical relations within his profession, unselfish work for his community, and a just return for honest effort—that seems an ideal contractor to me."

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After a sightseeing trip in the afternoon the 200 delegates were entertained at the Uplifters' Club at Santa Monica, where one of its famous barbecued dinners was served. A peppy vaudeville show was later put on for the guests gathered in the great campfire circle, under the direction of W. J. Dodd.

NEW OFFICERS ELECTED

The new officers of the Society of Architects of Alameda County were elected and duly installed October 7th. They are: President, Ralph Wastell; Vice President, Edward T. Foulkes; Secretary-Treasurer, E. G. Bangs; Directors, Jas. T. Narbett and W. R. Yelland; Advisor for State Association, Chas. E. Roeth.

READ BOOKS ON ARCHITECTURE

Books of architecture form the subjects of the latest unit of the "Reading With a Purpose" series of the American Library Association to be placed on the shelves of the Livermore Library. The themes included are "The Enjoyment of Architecture," by Talbot F. Hamlin; "Form In Civilization," by W. R. Lethaby; "Architecture and Democracy," by Claude Bragdon; "The Autobiography of An Idea," by Louis H. Sullivan, and "A History of Architecture," by Fiske Campbell and George H. Egdell.

NORTHERN BIRDS FLY SOUTH

TIME—Wednesday afternoon, 3:00 P. M., October 9, 1929
LOCATION—Alameda Air Port. Oakland and San Francisco Station, Maddux Air Line
THE PARTY—William I. Garren, Mark T. Jorgensen, Albert J. Evers, Charles F. B. Roeth, Henry Collins, Harris Allen, Lester Hurd, E. G. Bangs, John J. Donovan, (the writer of this Log), and our genial and hospitable host, Harry Hennings of the General Roofing Company.

The bunch have asked me to write the log of our trip from Oakland to Los Angeles to attend the Second Annual Convention of the State Association of California Architects.

We arrived at the Alameda Air Port at 3 o'clock; scheduled to leave at 3:15 P. M. A few of us who have never been in the air inspect the ship and look upon it somewhat with awe, for our safety in a few minutes will be resting with it. It is a Ford, three motor, all metal ship, most modern in design and equipment.

From now on I shall record the log as events and incidents occur. Before doing that however, I must express the sensation as we step into the ship. One or two of us are a little apprehensive, slightly uncertain; we believe it will be all right but there seems to be a convicted man's doubt. We are not quite so sure that we want all the thrills that go with a ride and an event of this kind. However, we are off!

3:15 P. M.—We have left the ground this minute and are in the air, rising so easily and gradually that it seems as though we are sitting in a great arm chair being gently and gradually carried out into space by a hidden but friendly Hercules. The ease and steadiness is now a little alarming as the motion is so regular that the ship seems to have stopped. At this minute there is a feeling of apprehension, for as I look out the window from the rear seat, the pneumatic landing wheels have stopped turning and it appears as though we are stationarily suspended in the air and the two pilots are now looking at each other. They are in conversation, but it is not the kind of conversation I imagine. They are passing some remark, then another look from the window and the sense of danger has passed because I now see we are moving upward and forward. At the moment of which I just described, we were probably five hundred feet above the waters of the Bay and it seemed as though the ship had stopped and the next instant that we might go crashing down. But here again, is an example of hysteria born of fear.

It is now only a few minutes since we started and the indicators show we are traveling about seventy miles an hour and are about two thousand feet high and going higher.

3:30 P. M.—San Mateo is just below us, we are about 6300 feet high. San Mateo and Belmont where I have built buildings, usually requires an hour's journey by automobile and yet we have been only fifteen minutes in the air.

Now, we are just southwest of San Jose and jogging along at 110 miles an hour, still 6300 feet high. What a sight it is overlooking this rolling country of hills and valleys, which seem at this great height to be no more than miniature hillocks and hollows; and the trees which we discern, appear to be hardly more than small miniature shrubs that might be used on a small model exhibiting a home and its garden.

The movement of the plane is so steady it is hard to realize we are moving at 110 miles an hour, due to the height from the land and the remoteness of landmarks which give relativity to motion.

Now, just a word about the plane. It is most interesting within and without—all metal, of Ford make and having three 425 horse power engines each costing approximately $8000.00 and they tell me that the ship and its equipment costs in the neighborhood of $60,000.00. From its accomplishment it is very easy to understand these costs. We have two pilots and a courier in uniform.

3:50 P. M.—We have just been served some ginger ale which is a little out of the ordinary, and at 6400 feet above the earth.

3:55 P. M.—or forty minutes since leaving the Airport. We are approaching what appears to be a spot between Gilroy and Salinas. Think of it! Almost a hundred miles in forty minutes; a journey I frequently make by automobile in approximately three hours.

Now the gang begins to sing and while there is a din from the motors, the merriment of the party rises above the noises of this mechanical contraption. We are having a loving cup now—a little more ginger ale and we know that the ship is safe. Wonderful ginger ale!

What a thrill we are getting. The gang is in good spirits and a genial host is busy most graciously to make us feel happy and especially the "keeper of the log," as they now call me, for he knew of my qualms and apprehensions and doubts about making the trip. For once we all share the thought we are on top of the world looking down upon it with wonder, knowing full well that we have to return to it if we are to get anywhere. Then comes a thought of those at home counting the minutes until we arrive at our destination when they will receive a telephone message from each and every man to his own telling them of the safe arrival and a word or two of the wonderful thrills. Then we sense something else, and that is that while they are dependent upon us for much of their happiness, we on board ship are very dependent upon them for our continued and permanent happiness.

4:27 P. M.—We are still on our way as we can tell by the shadow of the plane upon the ground and the hills and valleys that we pass. We are now passing over a small town, the name of which the courier doesn't know, but that doesn't matter. As we ride we seem to think the day of the train and the auto are not exactly gone, probably never will be gone, because there is a great convenience and pleasure to both, but it is a dead certainty to us here that for rapid and comfortable travel, the aeroplane has arrived.

A little incident comes up which adds to the interest. One of the party gets slightly indisposed, having partaken of corned beef and cabbage and I think ice cream just before leaving. Rare judgment on the wrong side of the diet list.

We have now risen to the height of 6500 feet. How infinite and great is it all! As we look down over the world and upon Mother Earth, we are passing over a most wonderful expanse of territory which is dotted with farms, ranches and homes, all of which we can see, because it is possible from this height to see within an area of a circle thirty to forty miles in radius. Land seems so abundant and so plentiful that it is almost unimportant; and it is from this distance and in our minds and estimation and that of others miles away, except to the man who owns it. All this gives us a sense of humility of mind as to our own unimportance and what a small part we play in the big game of life and how little we should think of ourselves. I suppose this may be counted a lesson leading towards the sense of realization of the many possibilities of man and life.

4:55 P. M.—Just passing Coalinga about two hundred miles from Oakland and San Francisco. We have been out just an hour and forty-five minutes. Think of it, a good day's travel by train and yet this distance and time is nothing to what has been done by flyers in endurance and speed tests.

Mark Jorgensen has just remarked that while we are traveling at the rate of 110 miles an hour it seems as though we are standing still because of the steadiness of the ship. The great height from the earth and the distance from us gives us very little sense of measurement.

Another word about the ship. It contains eleven seats for passengers and one for the courier who corresponds to the Pullman Conductor on a railroad train. On the interior there are electric lights controlled by the pilots. The seats are most comfortable and can be converted into reclining positions. Curiously to us, the baggage is stored in the wings and the windows are arranged at a level and below the eyes so that there is no obstruction to outward vision. We are all sensing a feeling of comfort and freedom from dust and a sense of safety that equals that of the train or perhaps the baby carriage.

5:19 P. M.—Approaching Bakersfield and the courier informs us that within an hour we will arrive in Los Angeles. He is wrong because we arrived just a few minutes after six o'clock. As we look down on Bakersfield it seems to us at this height to be a beautifully well-laid out city. The Airport from the distance is well done. Then we see the race track, the high school buildings, the athletic field and other evidences of man's work on the ground.

We are not far from the Ridge.

We learn that the names of the pilots are Captain George Allen and his co-pilot K. N. Blaney and the name of our obliging courier is John Dennis Williamson. I am struck with this middle name because I have had a number of relatives of that name and they were all good men.

We have just gotten word from the pilots that as we go over the Ridge we must sit down and remain seated until we are well passed it, also that we do this as we are about to land, which wont be long now. Someone remarks, "Do they know their stuff?" I and the rest of us say, "They do." How we appreciate their consideration and guardianship of our safety and we all realize that in caring for our lives they are caring for their own as well, for their lives are just as precious to them as ours are to us.

There seems to be quite a solicitation on the part of our host at this time that we shall be not only comfortable but well provided for in edibles and other delightful refreshments so that while the sunset glow is cheering and cheerful, the glow within is almost as luminous.

5:30 P. M.—We are 8500 feet above hard pan and still going at 110 miles an hour with no tail wind, whatever that may be. Now we are above the clouds. How beautiful they look; like veils of clear white. We ask what does it all mean—it is more than a thrill, it is beyond that which we call wonderful. We are still above the clouds looking at earth through them, then we see off to the distance three chocolate drops—the peaks of the Tehachapi mountains poking their noses above the veils. At this moment we are directly over a great cloud or fog bank; it seems more like clouds than fog and these three points of the mountains stand out. We are about 1200 or 1500 feet above these peaks and they seem to be about 200 or 500 feet above the clouds. These peaks some day will have beacons on their tops to aid aviators in their flight.

We have passed the bank of clouds and are again viewing what seems to be a rolling, rollicking country covered with vegetation. We are all Balboas now, he had nothing on us in thrills of discoveries.

Now we come to another bank of clouds. This time they seem like finely-washed cotton just before it is converted into cloth; soft and downy-like. We observe the clouds moving in sections and quite companionable. Now again they seem like a veil shielding Mother Earth.

5:40 P. M.—Altitude 8500 feet. The ship is rocking a little but not unpleasantly. The courier tells me we have struck an air pocket. It is bumping a little but not much. We have dropped about 100 feet, the bumps are not hard to take and we still feel safe.

Down below we see a highway. It looks like a highway that might be forty feet wide because three automobiles are passing one point, yet the road seems hardly more than a dark gray thread.

We cross another road and now we are approaching the Ridge Route.

5:45 P. M.—Oh Boy! As we come over the mountains and see the sun set, what a wonderful view it is!

We are now crossing Antelope Valley, the western end of the Mojave Desert. This Valley once was famous for its antelopes. Thousands of them existed here probably for centuries, but they are now extinct and they tell me there are none to be found.

5:48 P .M.—We are at the summit of the Tehachapi mountains and are starting on a long, gradual glide towards Glendale and should be in within half an hour. We are still traveling over a rolling country and are passing close to the fatal St. Francis Dam and see the path of those waters which wrought such terrible destruction of life and property. Just to the left we see a white-coated building and are told that was the power house, a ghostly tombstone. We can see the clay deposits and the washouts and brown streaks and cuts left by the great flood of waters rushing to the sea.

Now we see the Richfield Oil Company's tower beacons, they are on the right with red Neon lights flashing to show the way to the airport.

Again we see the path of the destroying waters from the St. Francis Dam. They tell me the cuts in some places are two miles wide showing the tremendous force of the waters as they rushed to the sea.

5:55 P. M.—The motors are tuning down as now we are

gliding towards the airport, but only a little. We have dropped from an altitude of 9500 feet to 6000. Bill Garren tells me we are gliding at a 10% decline.

It is almost six o'clock. Dusk is falling rapidly and were it not for the lights below we would know not where we are. All below is now vaguely vanishing due to darkness. Everything seems splotchy. Now we come to a great flood of light, we see indications of homes and regular markings of man's civilization and development.

Still the altitude is 6000 feet and the time is now 6:01 P. M. Saugus is on our right, lit like a Christmas tree. Rows and rows of lights mark the highways and the streets and again we are impressed with the development of land and earth by the hand of man.

Now we are over Van Nuys and Lankershim, small suburbs of Los Angeles. We are ten minutes out and about twenty miles away from Glendale, which is about twelve miles from the heart of Los Angeles. San Fernando is now on the right. Hollywood too, lighted like a fair, but we are lit too with enthusiasm and from the way we feel they must see us as clearly as we see them.

We are told to sit down. We are to land in a minute. We begin to circle and see Hollywood first on the right and then on the left. We are dropping. One more circle, then a bump up into the air, to miss something I suppose and now we are dropping again and are circling towards the left. We are about to land. No, the pilots are circling to get what might be called the lay of the wind so as to head into what they call a sock or bag, the idea being to head the plane right plumb into the wind so as to make the landing easy.

We are here.

We landed before we knew it. We are out of the plane and are thrilled once more to have our feet on good old earth where we belong, using the air as a means to get from one place to another. There is great handshaking, fine expressions of good fellowship. We rush to the telephones and messages are sent by ten good and hearty men to the loved ones at home that we are here and something has happened which is an epoch in our lives. We have made our first trip by the air route, at least most of us, and we are delighted we have had the experience and that we are safe.

And what a feeling of gratitude we hold towards our genial host who thought out all this and chartered the ship for us.

Now we pass on in automobiles to the hotel where we plan to have two day's convention of work, pleasure and meeting with the good fellows of the profession, for after this Convention we will arrive home with the realization that there are no better men in the world than our fellow architects; no finer characters nor can there be a finer sense of fellowship exemplified as they show towards one another.

The memories of all this are indelibly impressed. It was a great trip! —J. J. D.

WASHINGTON STATE CHAPTER A. I. A.

The following members of the Washington State Chapter, Seattle, have been appointed on Institute Committees for the current year 1929-30: A. H. Albertson, special committee on constitution and by-laws; Charles H. Alden, standing committee on competitions and special committee on foreign relations; Charles H. Bebb, special committee on historic monuments and natural resources; Carl F. Gould, standing committee on national capitol; John Graham, standing committee on contracts; Arthur L. Loveless, special committee on honor awards; James H. Schack, standing committee on practice; Joshua H. Vogel, standing committee on structural service, and Andrew Willatsen, special committee on industrial relations.

DESIGNED HALL DECORATIONS

Messrs. Ward and Blohme, San Francisco architects, designed the decorations for the American Bankers Association ball in the San Francisco Civic Auditorium last month. The aim of the architects was to maintain as near a typical California color scheme as was compatable with the occasion. The auditorium color scheme was orange and green with California poppies and redwoods. Orchestras were hidden in a copse of real redwoods with a background of green and gold curtains and the balcony and pipe organ facings were of light green and gold with shields of the American Bankers Association. There were thirty-three chandelier lights designed as baskets of poppies and supplemented with Chinese lanterns. The Polk street hall was the supper room. The side walls were hung with Spanish tapestries and urns of flowers from Golden Gate Park were used profusely. Larkin street hall was used as the promenade and lounge with tapestry decorations and bowers harmonizing with the general scheme. The three halls presented a very delightful aspect.

DOMINICAN COLLEGE BUILDING

Architect Arnold Constable has been commissioned by the Dominican College, San Rafael, to prepare plans for a new academic and library building.

Designed in the style of the Italian Renaissance, the building will be of reinforced concrete construction and will cost $150,000. There will be twelve classrooms and a library. The latter will run through the second and third floors.

RICHMOND CANNERY

Plans are being prepared by William Knowles of Oakland, for a $200,000 cannery at Richmond, Contra Costa county, California, for the Felice Perrelli Canning Company, Inc., of San Jose and Gilroy.

DESIGNING SPANISH RESIDENCE

A $25,000 Spanish type residence is planned for Hampton Highlands, Oakland, by W. E. Schirmer and Irwin M. Johnson, associated architects, 700-21st street, Oakland. Edward Babue is the owner.

NORTHERN CALIFORNIA CHAPTER, A.I.A.

The regular meeting of the Northern California Chapter, A. I. A., was held at the University of California in Berkeley on October 29th. Many members took the opportunity of visiting the various buildings about the campus prior to the hour of meeting.

Through the kindness of Warren Perry, it was arranged that the architects should meet at the Faculty Club where dinner was served.

The following members were present: Messrs. Allen, Gutterson, Bakewell, Coxhead, Howard, Bangs, Jorgensen, Maury, Bruce, Wyckoff, Hays, Appleton, Reimers, Ashley, Hildebrand, Wurster, Perry, Yelland, Klinkhart, Jeans, Hurd, Mitchell.

Guests present were: Messrs. Harry Hennings, Charles Roeth, Andrew Hass, Edwin H. Snyder, Arthur Jory and Morton Hansen.

The meeting was called to order by President Harris Allen. The minutes of the previous meeting were approved and published.

This being the annual meeting, Mr. Allen delivered his report and called for the reports of other officers and committees as follows: Secretary-Treasurer, James Mitchell; Committee on Competitions, William C. Hays, Chairman; Exhibits Committee, Raymond W. Jeans, Chairman; Historic Monuments Committee, Ernest Coxhead, Chairman; Fine Arts Committee, Fred Ashley, Chairman; Membership Committee, Henry Gutterson, Chairman; Industrial Relations Committee, Harry W. Michelson, Chairman.

The above reports were filed with the Secretary.

There being no nominations in addition to the ticket presented by the nominating committee at the September meeting, the following were unanimously elected to office: Frederick H. Meyer, President; Henry H. Gutterson, Vice-President; James H. Mitchell, Secretary-Treasurer; Harris C. Allen, Director, three years; Raymond W. Jeans, Director, three years.

A letter from Alfred Granger, chairman of the A. I. A. Committee on Plan of Washington, was read, wherein receipt was acknowledged of the Northern California Chapter's resolution pertaining to the Capitol development, and appreciation was expressed of the Chapter's attitude in this matter. Remarks were made by Mr. Howard and Mr. Hays.

It was moved, seconded and carried that a communication be sent to the San Francisco Junior Chamber of Commerce, requesting a conference to discuss the Fire Prevention and Safety Ordinance proposed by the Chamber.

It was moved, seconded and carried that a communication be sent to the San Francisco Board of Education expressing an endorsement by the Chapter of the policy of the board in the matter of school construction in San Francisco.

Warren C. Perry, as director of the School of Architecture, welcomed the architects and in speaking of the work being accomplished in the school, outlined the policy and methods of teaching, and the attitude of the students.

Adjourning to the Architecture Building, the members enjoyed moving about through the various rooms, where the students were at work, and then on to the exhibit hall where some time was spent in viewing the many projects, sketches, and order plates, on display.

Several very enjoyable bits of entertainment, and the pleasant mingling with the students, made the evening a very happy occasion.—J. H. M.

BOOK REVIEWS

By Edgar N Kierulff

MECHANICAL EQUIPMENT OF BUILDINGS, (Vol. I—Heating and Ventilation) By Harding & Willard. Published by John Wiley & Sons, Inc., 440 Fourth Ave., New York City. Price $10.00.

This is the new second edition, completely rewritten and revised. All obsolete material has been eliminated and the most recent information, the result of research and new findings, has been set forth. An excellent handbook of reference on one of the vital problems of today's building. Engineers and specification writers should find this volume most valuable. The charts, diagrams and plates are well drawn.

WROUGHT IRON AND ITS DECORATIVE USE, by Maxwell Ayrton and Arnold Silcock, FF. R. I. B. A. Published by Charles Scribner's Sons, New York. Price $14.50.

A large beautifully arranged book on an all absorbing topic. The place held by decorative wrought iron in today's architecture is a high one and good, sound books on the subject are invaluable. The illustrations are splendid. Sketches and details enliven the chapter on General History and that containing the introduction. The examples used have been drawn from various sources with English wrought iron predominating. The book is well bound, particularly for constant use and the type is of good size and readable. An altogether excellent addition to any architectural library.

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RETAINER FEES

The following anecdote is illuminating, but is not particularly flattering to one of the world's oldest professions. It rather indicates the desirability of a retaining fee. One of the members of the Architects' League of Hollywood happened to overhear a conversation somewhat as follows: Two real estate salesmen were discussing the possibility of selling a piece of property. "Now to make this sale we'll have to get some sketches of the building to go on the lot," said the first high-pressure conversationalist. "I know," said the second, "but we'll have to pay for them and who's going to put up the money?" "Pay for them!" said the first scandalized geographical merchant. "I should say not, we'll get some poor sap of an architect to make them for nothing, and hand him a fast line about his getting the job."

STEEL OFFICIAL PROMOTED

M. E. Danford, for more than seven years works manager of the Middletown division of the American Rolling Mill Company has been appointed assistant vice president of the company.

Mr. Danford started his career with the American Rolling Mill Company in 1910 as superintendent of the open hearth department of the central works plant. He is a member of the Iron and Steel Institute and well known in the steel industry.

REDUCTIONS IN STEEL WINDOWS

Truscon Steel Company anonunces the following new discounts effective immediately to apply on their steel window and door products:

On Engineering Products

Orders listing	$ 0 to	$ 400	45%	Dis.
Orders listing	400 to	1,000	50%	Dis.
Orders listing	1,000 to	2,000	50%—5 %	Dis.
Orders listing	2,000 to	3,000	50%—10%	Dis.
Orders listing	3,000 to	6,000	50%—15%	Dis.
Orders listing	6,000 to	10,000	50%—20%	Dis.
Orders listing	10,000 to	20,000	50%—25%	Dis.
Orders listing	20,000 and over		50%—30%	Dis.

On Commodity Products

Orders listing	$ 0 to	$ 300	List
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Orders listing	500 to	1,000	15% Discount
Orders listing	1,000 to	2,000	20% Discount
Orders listing	2,000 and over		25% Discount

These new price levels constitute substantial reductions on commodity products which are effective to the consumer. These reductions are made possible by economies in production resulting from standardization and large volume, combined with lowered distribution costs.

The steel window industry is operating in a fair volume and a firm market. All manufacturers are cooperating in the new Solid Section Steel Window Association in eliminating bad business practices, in bringing about standardization and elimination of waste and in establishing business like distribution methods and policies.

NEW TILE COMPANY

Porstelain Tile Co., Ltd., announces the opening of permanent display rooms and offices at 66 Twelfth street, San Francisco, for the distribution and sale of Porstelain tile, a product made of poreclain enameled steel. The tile is strong and durable and is free from cracking or chipping. Once installed it will retain its original color and beauty, declare the manufacturers. The new company is headed by Joseph B. Fratessa, president and Albert L. Anderson, vice-president. J. S. Fratessa is construction superintendent for the company.

ENGINEERS' REGISTRATION BOARD

H. J. Brunnier, San Francisco structural engineer and president of the California State Automobile Association, has been named by Governor Young as one of three members of the first state board for registration of civil engineers.

Albert Givan of Sacramento, chief engineer and general manager of the Sacramento Utility District, and Donald M. Baker, consulting engineer of Los Angeles, are other members of the board.

The board members will receive no salary. However, the law appropriates $3600 a year for a secretary who may or may not be a member of the board.

WHAT'S WHAT IN MATERIALS

WHO'S WHO AMONG CONTRACTORS

ALPHABETICAL LIST OF ADVERTISERS ON PAGE 126

ACOUSTIC CORRECTIONS
Johns-Manville Company, all principal Coast cities.
R. Guastavino Co., represented by Albert B. Mann, Engineer, 417 Crocker Bldg., San Francisco.
"Acousti-Celotex," Western Asbestos Magnesia Co., 25 South Park, San Francisco.
American Hair & Felt Co., 1615 Ditman St., Los Angeles.

AIR COMPRESSORS
Dayton, sold by Simonds Machinery Co., 816 Folsom Street, San Francisco; 520 East 4th Street, Los Angeles.

ACOUSTIC DEADENING
American Hair & Felt Co., 1615 Ditman St., Los Angeles.

ART METAL
Federal Ornamental Iron and Bronze Co., 16th St., and San Bruno Ave., San Francisco.
Michel & Pfeffer Iron Works, 1415 Harrison Street, San Francisco.

ARCHITECTURAL ENCAUSTIC TILE
Mangrum-Holbrook Co., Inc., 1235 Mission Street, San Francisco.

ARCHITECTURAL BRONZE
Elevator Supplies Company, Inc., Hoboken, N. J.; 186 Fifth Street, San Francisco; 1120 S. Hope Street, Los Angeles.
Zouri Drawn Metals Company, Chicago Heights, Illinois. (Zouri Company of California, 1208 Howard St., San Francisco.

ARCHITECTURAL TERRA COTTA
N. Clark & Sons, 116 Natoma Street, San Francisco.
Gladding, McBean & Co., 660 Market St., San Francisco; 621 S. Hope St., Los Angeles; 1500 First Ave. South, Seattle; 454 Everett St., Portland; 15th and Dock Sts., Tacoma, and 22nd and Market Sts., Oakland
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ASPHALT ROOFING
El Rey Products Company, 1633 San Pedro St., Los Angeles; 960 Seventh St., San Francisco; 65 Columbia St., Seattle; 850 E. Taylor St., Portland.
The Paraffine Companies, Inc., San Francisco, Oakland, Los Angeles, Portland and Seattle.

AUTOMATIC THERMOSTAT CONTROLS
Majestic Electric Appliance Company, 590 Folsom Street, San Francisco.

BEDS—WALL—CONCEALED, ETC.
Marshall & Stearns Co., Phelan Bldg., San Francisco.

BLACKBOARDS
C. F. Weber & Co., 601 Mission St., San Francisco, Los Angeles and Reno, Nevada.

BOILERS
Kewanee Boiler Co., 635 Mission St., San Francisco.
Kewanee Water Supply System, Simonds Machinery Co., 816 Folsom St., San Francisco.
Consolidated Steel Corporation, 1200 N. Main St., Los Angeles.

BONDS FOR CONTRACTORS
Bonding Company of America, Kohl Bldg., San Francisco.
Globe Indemnity Co., 444 California St., San Francisco.
Fidelity & Casualty Co. of New York, Balfour Bldg., San Francisco.
Standard Accident Insurance Company, California Commercial Union Building, San Francisco.

BRASS GOODS, CASTINGS, ETC.
H. Mueller Manufacturing Co., 1072 Howard St., San Francisco.

BRICK—FACE, COMMON, ENAMEL, GLAZED
Gladding, McBean & Co., 660 Market St., San Francisco; 621 S. Hope St., Los Angeles; 1500 First Ave. South, Seattle; 454 Everett St., Portland; 15th and Dock Sts., Tacoma, and 22nd and Market Sts., Oakland.
N. Clark & Sons, 116 Natoma Street, San Francisco.
W. S. Dickey Clay Mfg. Co., San Francisco and Oakland.
Port Costa Brick Works, 6th and Berry Sts., San Francisco.
McNear Brick Company, Monadnock Bldg., San Francisco.
Richmond Pressed Brick Co., Sharon Bldg., San Francisco. Plant at Richmond, Cal.
Cannon & Co., Sacramento; 517 Call Bldg., San Francisco; Builders Exchange Bldg., Oakland.

BRICK AND CEMENT COATING
The Paraffine Companies, Inc., 475 Brannan St., San Francisco.

BUILT-IN FURNITURE
Built-in Fixture Company, 2608 San Pablo Ave., near Dwight Way, Berkeley, and Hoosier Store, Pacific Bldg., San Francisco.

BUILDERS' HARDWARE
"Corbin" hardware, sold by Palace Hardware Company, 581 Market St., San Francisco.
Richards-Wilcox Mfg. Co., Aurora, Ill.; represented by Ewing-Lewis Company, Hunter-Dulin Bldg., San Francisco, and 408 S. Spring Street, Los Angeles.

BUILDING PAPERS
El Rey Products Company, 1633 N. San Pablo Street, Los Angeles; 960 Seventh Street, San Francisco; 65 Columbia Street, Seattle; 850 E. Taylor St., Portland, Ore.
The Paraffine Companies, Inc., San Francisco, Los Angeles, Portland and Seattle.
Pacific Materials Co., 444 Market St., San Francisco.

CARPETS AND RUGS IMPORTED
Kent-Costikyan, Inc., 485 Fifth Ave., New York City, with offices at 442 Post St., San Francisco and 816 South Figueroa St., Los Angeles.

CEMENT
Atlas White, manufactured by The Atlas Portland Cement Company, 25 Broadway, New York.
Hydro-plastic cement, manufactured by Southwestern Portland Cement Company, 356 S. Spring St., Los Angeles
Pacific Portland Cement Co., Hunter-Dulin Bldg., San Francisco, also Portland, Ore., Los Angeles and San Jose, Calif
Santa Cruz Portland Cement Company, Crocker Building, San Francisco.

CEMENT EXTERIOR WATERPROOF PAINT
Bass-Heuter Paint Company, San Francisco, Los Angeles, Portland, Seattle.
The Paraffine Companies, Inc., San Francisco, Los Angeles, Portland and Seattle.

CEMENT TESTS—CHEMICAL ENGINEERS
Robert W. Hunt Co., 251 Kearny Street, San Francisco.

CLAY PRODUCTS
N. Clark Sons, 116 Natoma Street, San Francisco.
Cannon & Co., Sacramento, Cal.; 517 Call Bldg., San Francisco.
W. S. Dickey Clay Mfg. Co., San Francisco and Oakland.
Gladding, McBean & Co., 660 Market St., San Francisco; 621 S. Hope St., Los Angeles; 1500 First Ave. South, Seattle; 454 Everett St., Portland; 15th and Dock Sts., Tacoma, and 22nd and Market Sts., Oakland.
United Materials Co., Sharon Bldg., San Francisco.

COMPOSITION ROOFING
El Rey Products Company, 1633 San Pedro St., Los Angeles; 960 Seventh St., San Francisco; 65 Columbia St., Seattle; 850 E. Taylor St., Portland.
The Paraffine Companies, Inc., San Francisco, Oakland, Los Angeles, Portland and Seattle.

CONCRETE OR CEMENT HARDENER
Gunn, Carle & Co., Inc., 444 Market St., San Francisco.

CONCRETE REINFORCING
Soule Steel Company, Rialto Building, San Francisco.
Gunn, Carle & Co., Inc., 444 Market St., San Francisco.
Clinton Welded Wire Fabric, Wickwire Spencer Steel Corporation, 144 Townsend St., San Francisco.
Pacific Coast Steel Company, Hunter-Dulin Bldg., San Francisco.

CONTRACTORS—GENERAL—
Adam-Arras Co., 185 Stevenson St., San Francisco.
F. R. Siegrist Co., 604 Williams Bldg., San Francisco.
Spivock & Spivock, Hobart Building, San Francisco, and 412 Water St., Oakland.
Vogt & Davidson, Inc., 185 Stevenson St., San Francisco, and Builders Exchange, Oakland.
K. E. Parker Company, Inc., 135 South Park, San Francisco.
Barrett & Hilp, 918 Harrison Street, San Francisco.
Lindgren-Swinerton, Inc., Standard Oil Bldg., San Francisco.
R. W. Littlefield, 337 17th Street, Oakland.
Dinwiddie Construction Co., Crocker Bldg., San Francisco.
Clinton Construction Company, 923 Folsom St., San Francisco.
Monson Bros., 475 Sixth St., San Francisco.
McLeran & Co., R., Hearst Bldg., San Francisco.
Chas. D. Vezey & Sons, Builders Exchange Bldg., Oakland.
Jacks & Irvine, Call Bldg., San Francisco.
Industrial Construction Company, 815 Bryant Street, San Francisco.
Anderson & Ringrose, 320 Market Street, San Francisco.
G. P. W. Jensen, 320 Market Street, San Francisco.

CORK TILE
Congoleum-Nairn, Inc., D. N. & E. Walter & Co., San Francisco, and Broadway Department Store, Los Angeles.
Van Fleet-Freear Company, 557 Howard St., San Francisco, and 420 S. Spring St., Los Angeles.

CRIBBING FOR RETAINING WALLS
Massey Concrete Products Corporation, Colton California and Spokane, Washington.

DAMP-PROOFING AND WATER-PROOFING
Western Asbestos Magnesia Company, 25 South Park, San Francisco.
The Paraffine Companies, Inc., San Francisco, Oakland, Los Angeles, Portland and Seattle.
Gunn, Carle & Co., 444 Market St., San Francisco.

DEADENING MATERIAL
"Insulite" Western Asbestos Magnesia Co., 25 South Park, San Francisco.
The Paraffine Companies, Inc., San Francisco, Oakland, Los Angeles, Portland and Seattle.
American Hair & Felt Co., 1615 Ditman St., Los Angeles.
Gunn, Carle & Co., 444 Market St., San Francisco.
"Torfoleum" manufactured by Mailliard & Schmiedell, 203 California St., San Francisco.

DOOR CHECKS—CONCEALED
The Condor Company, 58 Sutter St., San Francisco.

DOOR CLOSERS
Norton door closer, sold by Nissen-Currier Co., 265 Minna St., San Francisco, and 302 Colo Bldg., Los Angeles.

DOOR HANGERS
Richards-Wilcox Mfg. Co., The Ewing-Lewis Co., Hunter-Dulin Bldg., San Francisco.

DOORS—FIREPROOF
Detroit Steel Products Company, 251 Kearny St., San Francisco.
Kinnear Mfg. Co., represented by Gunn, Carle & Co., 444 Market St., San Francisco.

DOORS—FREIGHT ELEVATOR
The Peelle Co., rooklyn, N. Y., represented by Persons Dwan & Co., 534 Sixth Street, San Francisco.

DOORS—HOLLOW METAL
Fire Protection Products Co., 1101 Sixteenth St., San Francisco.
Dahlstrom Metallic Door Co., Jamestown, N. Y., Coast plant, 3350 E. Slauson Ave., Los Angeles.
Forderer Cornice Works, Potrero Ave., San Francisco.

DOORS—ROLLING
Jas. G. Wilson Corporation, 605 Market St., San Francisco.
Kinnear rolling steel doors, sold by Gunn, Carle & Co., 444 Market St., San Francisco.

DRAIN PIPE AND FITTINGS
"Corrosiron" Acid Proof manufactured by Pacific Foundry Co., Harrison and 18th Sts., San Francisco.

DRAPERIES AND WINDOW SHADES
D. N. & E. Walter & Co., 562 Mission Street, San Francisco.

DRINKING FOUNTAINS
Haws Sanitary Drinking Faucet Co., 1808 Harmon St., Berkeley, and C. F. Weber & Co., San Francisco and Los Angeles.
Standard-Pacific Plumbing Fixtures, 349 Sutter St., San Francisco; 919 W. 7th St., Los Angeles; 1301 5th Ave., Seattle, Wash.; 48 5th St., Portland, Ore.

DUMB WAITERS
Spencer Elevator Company, 166 7th St., San Francisco.

WHAT'S WHAT IN MATERIALS

WHO'S WHO AMONG CONTRACTORS

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Elevator Supplies Co., Inc., Hoboken, N. J.; San Francisco office, 186 Fifth St.

ELECTRICAL CONTRACTORS
Butte Electrical Equipment Company, 2014 Folsom St., San Francisco.
Charles A. Langlais, 472 Tehama St., San Francisco.
H. C. Reed & Co., 389 Clementina St., San Francisco.

ENGINEERS—CONSULTING, ELECTRICAL, MECHANICAL
Hunter & Hudson, 41 Sutter Street, San Francisco.
Charles T. Phillips Company, Bank of Italy Bldg., San Francisco, and Roberts Bldg., Los Angeles.

ELECTRIC AIR AND WATER HEATERS
Majestic Electric Appliance Company, 590 Folsom Street, San Francisco.
Wesix Heater Company, Rialto Building, San Francisco.
Sandoval Sales Company, 415 Jessie Street, San Francisco.
Weir Electric Appliance Company, 26th and Adeline Streets, Oakland.

ELECTRIC REFRIGERATION
General Electric Refrigerator, George Belsey Company, Los Angeles, Distributor, Stores in Los Angeles, Pasadena, Glendale, Hollywood, Santa Monica and Monrovia; L. H. Bennett, Northern California Distributor, 2112 Broadway, Oakland; 318 Stockton St., San Francisco.
Wayne Home Equipment Company, Fort Wayne, Indiana, represented by Hill and Stoops, 4214 Broadway, Oakland, Calif.

ELECTRICAL SUPPLIES AND EQUIPMENT
The Frink Company, 10th Ave. at 24th St., New York; 77 O'Farrell St., San Francisco
Drendell Electrical & Mfg. Co., 1345 Howard St., San Francisco.
Frank Adam Electric Company, 340 Fremont St., San Francisco, and 1127 Wall Street, Los Angeles; general offices, St. Louis, Mo.
Westinghouse Electric & Manufacturing Company, East Pittsburgh, Pa., and First National Bank Bldg., San Francisco.
Sterling Bronze Co., Inc., 18 East 40th St., New York.

ELECTROLIERS
Northern Street Lighting Company, 389 Clementina Street, San Francisco.

ELEVATOR ENTRANCE DOORS
Dahlstrom Metallic Door Company, Jamestown, N. Y., Pacific Coast plant, 3350 East Slauson Ave., Los Angeles.

ELEVATORS—PASSENGER AND FREIGHT
Otis Elevator Company, Stockton and North Point, San Francisco.
Spencer Elevator Company, 166 Seventh St., San Francisco.
Westinghouse Electric and Manufacturing Company, First National Bank Bldg., San Francisco, general offices and works, Pittsburgh, Pa.
Consolidated Steel Corporation, 1200 N. Main St., Los Angeles.

ELEVATOR SIGNALS, DOOR EQUIPMENT
Elevator Supplies Co., Inc., Hoboken, N. J.; San Francisco office, 186 Fifth St.
The Peelle Co., Brooklyn, N. Y., represented by Persons Dwan & Co., 534 Sixth Street, San Francisco.
Richards-Wilcox Mfg. Co., represented by Ewing-Lewis Company, Hunter-Dulin Bldg., San Francisco; 408 S. Spring Street, Los Angeles.

ENAMELS
Gold Seal Enamel—Bass-Heuter Paint Company, San Francisco, Los Angeles, Portland, Seattle.

EXIT DEVICES
Von Duprin, manufactured by Vonnegut Hardware Company, Indianapolis; sold by D. A. Pancoast Co., 605 Market St., San Francisco.

FENCES—WIRE AND IRON
Michel & Pfeffer Iron Works, Harrison and Tenth Sts., San Francisco.

FIRE EXTINGUGISHING APPARATUS
"Lux" System, represented by Hough and Egbert, Inc., 519 Robert Dollar Building, San Francisco.

FIRE DETECTING APPARATUS
"Derby" and "Selex" Systems, represented by Hough and Egbert, Inc., 519 Robert Dollar Building, San Francisco.

FIRE ESCAPES
Michel & Pfeffer Iron Works, 1415 Harrison St., San Francisco.
Palm Iron & Bridge Works, Sacramento.
Western Iron Works, 141 Beale St., San Francisco.

FIRE SPRINKLERS—AUTOMATIC
Fire Protection Engineering Co., 407 Exchange Building, 369 Pine Street, San Francisco.
Grinnell Company of the Pacific, Fifth and Brannan Sts., San Francisco.

FIXTURES—BANK, OFFICE, STORE, ETC.
Home Manufacturing Company, 562 Brannan St., San Francisco.
Mullen Manufacturing Co., 64 Rausch St., San Francisco.
Pacific Manufacturing Company, San Francisco, Los Angeles, Oakland and Santa Clara.
The Fink & Schindler Co., 228 13th St., San Francisco.

FLOORS—CORK, LINOLEUM, ETC.
Congoleum-Nairn, Inc., D. N. & E. Walter & Co., San Francisco, and Broadway Department Store, Los Angeles.
The Paraffine Companies, Inc., San Francisco, Los Angeles, Oakland, Portland, Seattle.

FLOOR HARDENER
Master Builders Company, Mills Bldg., San Francisco; 426 So. Spring Street, Los Angeles; also Seattle, Portland and Spokane.

FLOORS—REDWOOD BLOCK
Redwood Block Floor Company, Bryant at 18th St., San Francisco.
Pacific Redwood Floor Company, 311 California St., San Francisco, and 420 Grant Bldg., Los Angeles.

FLOOR CLIPS
Bull Dog Floor Clip Co., 557 Market St., San Francisco and Hibernian Bldg., Los Angeles.

FLOORS—HARDWOOD
Inlaid Floor Company, 600 Alameda Street, San Francisco and 4067 Watts Street, Emeryville, Oakland.
"Perfection" Brand Oak Flooring, Arkansas Oak Flooring Co., Pine Bluff, Arkansas.
J. E. Higgins Lumber Company, San Francisco.
White Brothers, 5th and Brannan streets, San Francisco; 500 High Street, Oakland.
Cellized Oak Flooring, Inc., Memphis, Tenn. Represented by Geo. H. Brown Hardwood Company, Oakland.

FREIGHT ELEVATOR DOORS
The Peelle Co., Brooklyn, N. Y., represented by Persons Dwan & Co., 534 Sixth Street, San Francisco.

FURNITURE—OFFICE, SCHOOL, CHURCH, THEATER
The Fink & Schindler Co., Inc., 218-68 13th St., San Francisco.
Home Mfg. Co., 552 Brannan Street, San Francisco.
Mullen Mfg. Co., 64 Rausch Street, San Francisco.
C. F. Weber & Co., San Francisco, Los Angeles, and Phoenix, Ariz.

GENERAL CONTRACTORS
Spivock & Spivock, Hobart Building, San Francisco.

GLASS
Cobbledick-Kibbe Glass Co., 666 Howard St., San Francisco.

GRAVEL AND SAND
Del Monte White Sand, Del Monte Properties Co., Crocker Bldg., San Francisco.

GYMNASIUM EQUIPMENT—LOCKERS, ETC.
Ellery Arms Co., 583 Market St., San Francisco.

HANGERS—RELIANCE—
Graham & Norton Company, 213 Minna Street, San Francisco.

HARDWARE
Vonnegut hardware, sold by D. A. Pancoast Company, 605 Market St., San Francisco.
Palace Hardware Company, 581 Market St., San Francisco.
Richards-Wilcox Mfg. Co., represented by Ewing-Lewis Company, Hunter-Dulin Bldg., San Francisco; 408 S. Spring Street, Los Angeles.

HARDWOOD LUMBER
J. E. Higgins Lumber Co., San Francisco.
G. H. Brown Hardwood Lumber Co., 47th Ave. at E. 12th Street, Oakland.
White Brothers, 5th and Brannan streets, San Francisco; 500 High Street, Oakland.

HEATING—COAL FURNACE
Montague Range & Furnace Company, 376 Sixth St., San Francisco.

HEATING—ELECTRIC
Wesix Electric Air Heaters, manufactured and distributed by Wesix Heater Company, Rialto Building, San Francisco.
Apex Air and Water Electric Heaters, Sandoval Sales Company, 115 Jessie Street, San Francisco.
Majestic Electric Appliance Co. (bathroom heater), 690 Folsom St., San Francisco.
Weir Electric Appliance Company, 26th and Adeline Streets, Oakland.

HEATING—STEAM
Warren Webster & Company, Sharon Bldg., San Francisco, and 306 Crocker St., Los Angeles.

HEATING CONTRACTORS
Alex Coleman, 706 Ellis St., San Francisco.
Gilley-Schmid Company, 198 Otis St., San Francisco.
Hateley & Hateley, Mitau Bldg., Sacramento.
Mangrum & Otter, 827-831 Mission St., San Francisco.
W. H. Picard, 5656 College Ave., Oakland.
Luppen & Hawley, 3126-J St., Sacramento.
William F. Wilson Co., 240 Fourth St., San Francisco.
James A. Nelson, Inc., Howard and Tenth Sts., San Francisco.
Scott Company, 243 Minna St., San Francisco.
Geo. A. Schuster, 4712 Grove St., Oakland.
Herman Lawson, 465 Tehama Street, San Francisco.

HEATING EQUIPMENT
E. A. Cornely, Inc., 1452 Bush Street, San Francisco.
Illinois Engineering Co., 417 Market St., San Francisco.
Warren Webster & Company, Sharon Bldg., San Francisco, and 306 Crocker St., Los Angeles.
James A. Nelson, Inc., Howard and Tenth Sts., San Francisco.
B. F. Sturtevant Co., Monadnock Bldg., San Francisco; Los Angeles, Portland, Seattle.

HOLLOW BUILDING TILE (Burned Clay)
Cannon & Co., plant at Sacramento; Call Bldg., San Francisco.
N. Clark & Sons, 112-116 Natoma Street, San Francisco; works, West Alameda, California.
Gladding, McBean & Co., 660 Market St., San Francisco; 621 S. Hope St., Los Angeles; 1500 First Ave. South, Seattle; 454 Everett St., Portland; 15th and Dock Sts., Tacoma, and 22nd and Market Sts., Oakland.
W. S. Dickey Clay Mfg. Co., San Francisco and Oakland.

HOSE
The American Rubber Mfg. Co., Park Ave. and Watts St., Oakland, Calif.

HOSE RACKS AND REELS
American Rubber Mfg. Co., San Francisco, Oakland, Los Angeles and Portland, Ore.

HOSPITAL SIGNAL SYSTEMS
Chicago Signal Co., represented by Garnett Young & Co., 390 Fourth St., San Francisco.

INCINERATORS
The Goder, sold by M. E. Hammond, Mezzanine, Pacific Bldg., San Francisco.
Kewanee Boiler Co., 635 Mission Street, San Francisco.

INDUSTRIAL LIGHTING EQUIPMENT
Westinghouse Electric and Mfg. Co., East Pittsburgh, Pa., and First National Bank Bldg., San Francisco.

INSPECTIONS AND TESTS
Robert W. Hunt Co., 251 Kearny Street, San Francisco.

INSULATION
"Insulex" manufactured by Pacific Portland Cement Co., Hunter-Dulin Bldg., San Francisco, & 1200 Chapman Bldg., Los Angeles.
Western Asbestos Magnesia Co., 25 South Park, San Francisco.
American Hair and Felt Company, 1615 N. Ditman St., Los Angeles.
Gunn, Carle & Co., 444 Market St., San Francisco.
"Torfoleum" manufactured by Mailliard & Schmiedell, 203 California St., San Francisco.

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INSULATED WIRE
Hazard Insulated Wire Works, Wilkes-Barre, Pa., Russ Building, San Francisco, Seattle and Los Angeles.

KITCHEN EQUIPMENT
General Electric Refrigerator, L. H. Bennett, Rialto Building, San Francisco, and the George Belsey Company, Architects Building, Los Angeles.
James A. Nelson, Inc., Howard and Tenth Sts., San Francisco.
Mangrum Holbrook Company, 1235 Mission St., San Francisco.

LACQUERS
The Paraffine Companies, Inc., San Francisco, Los Angeles, Oakland, Portland and Seattle.
Bass-Hueter Paint Company, San Francisco, and all principal Coast cities.

LATHING MATERIAL—WIRE, METAL, ETC.
Genfire Steel Co., Sheldon Bldg., San Francisco; Builders' Exchange, Oakland.
Truscon Steel Co., Sharon Building, San Francisco.
Soule Steel Company, Rialto Building, San Francisco, and Los Angeles.

LAUNDRY MACHINERY AND EQUIPMENT
American Laundry Machinery Company, 921 Howard Street, San Francisco.
Troy Laundry Mach'y Co., Ltd., East Moline, Ill., and 951 Mission St., San Francisco.
Gunn, Carle & Co., 444 Market St., San Francisco.

LIGHTING FIXTURES, OUTLETS, ETC.
Westinghouse Electric and Mfg. Co., First National Bank Bldg., San Francisco; general offices and works, Pittsburgh, Pa.
The Frink Company, 369 Lexington Avenue, New York, and principal Coast cities.
Sterling Bronze Co., Inc., 18 East 40th St., New York.

LIME PRODUCTS
United States Lime Products Corp., San Francisco, Los Angeles, Portland, Ore.

LINOLEUM
William Volker & Co., 631 Howard St., San Francisco, and 2301 E. 7th St., Los Angeles.
The Paraffine Companies, factory in Oakland; office, 475 Brannan Street, San Francisco.
W. & J. Sloane, 216 Sutter Street, San Francisco.
Van Fleet- Freear Company, 557 Howard St., San Francisco, and 420 S. Spring St., Los Angeles.
Bonded Floors—Sealex Linoleum and Tile manufactured by Congoleum-Nairn, Inc., D. N. & E. Walter & Co., San Francisco; Broadway Department Store, Los Angeles.

LUMBER
G. H. Brown Hardwood Company, 1044 47th Ave., Oakland.
Pacific Mfg. Co., San Francisco, Oakland, Los Angeles and Santa Clara.
Santa Fe Lumber Co., 16 California St., San Francisco.
J. E. Higgins Lumber Company, 423 Sixth St., San Francisco.
Sunset Lumber Company, First and Oak Sts., Oakland.
White Brothers, 5th and Brannan Sts., San Francisco, and 500 High St., Oakland.
E. K. Wood Lumber Co., Frederick and King streets, Oakland.

MAIL CHUTES
Cutler Mail Chute Co., represented by Price Building Specialties Co., 683 Howard St., San Francisco and Continental Building Specialties Co., 1216 Hibernian Bldg., Los Angeles.

MARBLE
American Marble Company, 25 Columbus Square, San Francisco.
Clervi Marble Company and Mosaic Co., 1721 San Bruno Avenue, San Francisco.
Ray Cook Marble Company, foot of Powell St., Oakland.
Joseph Musto Sons-Keenan Co., 535 N. Point St., San Francisco.
Vermont Marble Co., Coast branches, San Francisco, Los Angeles and Tacoma.
Tompkins-Kiel Marble Company, 505 Fifth Ave., New York; also Chicago, Philadelphia and San Francisco.

MASONRY ANCHORS
Steelform Contracting Company, Monadnock Bldg., San Francisco; Edwards & Wildey Bldg., Los Angeles.

METAL COVERED DOORS
Fire Protection Products Co., 1101 Sixteenth St., San Francisco.
Forderer Cornice Works, Potrero Ave., San Francisco.

MILLWORK
The Fink & Schindler Co., Inc., 218-68 13th St., San Francisco.
Pacific Mfg. Co., San Francisco, Los Angeles, Oakland and Santa Clara.
Sunset Lumber Company, First and Oak Streets, Oakland.
Lannom Bros. Mfg. Co., Fifth and Magnolia Sts., Oakland.
Atkinson Mill & Mfg. Co., 2985 Chapman Avenue, Oakland.
Chicago Lumber Company of Washington, 66th and 69th Aves and Spencer Street, Oakland.
E. K. Wood Lumber Co., Frederick and King streets, Oakland.

MONEL METAL
"Inco" brand, distributed on the Pacific Coast by the Pacific Foundry Company, Harrison and 18th Streets, San Francisco, and Eagle Brass Foundry, Seattle, Wash.

OIL BURNERS
Rayfield Oil Burner, Coast Distributors, E. A. Cornely, Inc., 1452 Bush Street, San Francisco.
S. T. Johnson Company, 1337 Mission St., San Francisco; 940 Arlington St., Oakland; 1729 Front St., Sacramento, and 230 N. Sutter St., Stockton.
Vaughn-G. E. Witt Co., 4224-28 Hollis Street, Emeryville, Oakland.
W. S. Ray Mfg. Company, 170 Sutter St., San Francisco, and 2206 San Pablo Ave., Oakland.
Coen Company, 112 Market Street, San Francisco.
Wayne Home Equipment Company, Fort Wayne, Indiana, represented by Hill and Stoops, 4214 Broadway, Oakland, Calif.

ORNAMENTAL IRON AND BRONZE
Federal Ornamental Iron and Bronze Co., 16th St. and San Bruno Ave., San Francisco.
Michel & Pfeffer Iron Works, 1415 Harrison St., San Francisco.
Palm Iron & Bridge Works, Sacramento.

PAINTING, DECORATING, ETC.
The Tormey Co., 681 Geary St., San Francisco.
A. Quandt & Sons, 374 Guerrero Street, San Francisco.

PAINTS, OILS, ETC.
The Paraffine Companies, Inc., San Francisco, Los Angeles, Oakland, Portland and Seattle.
Bass-Hueter Paint Company, San Francisco, Los Angeles, Portland, Seattle.
General Paint Company, Los Angeles, San Francisco, Oakland, Seattle, Spokane and Portland.

PANEL BOARDS
Drendell Electric & Mfg. Co., 1760 Howard St., San Francisco.
Frank Adam Electric Company, 340 Fremont St., San Francisco, and 1127 Wall Street, Los Angeles; general offices, St. Louis, Mo.
Westinghouse Elec. and Mfg. Co., First National Bank Bldg., San Francisco; general offices and works, Pittsburgh, Pa.

PANELS—HARDWOOD
White Brothers, 5th and Brannan Sts., San Francisco, and 500 High St., Oakland.

PANIC EXIT DEVICES
Von Duprin, manufactured by Vonnegut Hardware Company, Indianapolis; sold by D. A. Pancoast Co., 605 Market Street, San Francisco.

PARTITIONS—MOVABLE OFFICE
Dahlstrom Metallic Door Company, Jamestown, N. Y., Coast plant, 3350 E. Slauson Ave., Los Angeles
Pacific Mfg. Co., Monadnock Building, San Francisco; factory at Santa Clara.

PIPE—WROUGHT IRON
A. M. Byers Co., Pittsburgh, Pa., and Financial Center Bldg., Los Angeles.
Reading Iron Co., Reading, Pa., and Balboa Bldg., San Francisco.

PLASTER
"Empire," manufactured by Pacific Portland Cement Co., Hunter-Dulin Building, San Francisco, Portland, San Jose and Los Angeles.

PLASTER BASE
"Celotex," Western Asbestos Magnesia Co., 25 South Park, San Francisco.

PLASTER REINFORCING
Wickwire-Spencer Steel Company, Inc., 144 Townsend St., San Francisco.

PLASTERING CONTRACTORS
A. Knowles, Call Bldg., San Francisco.
MacGruer & Company, 266 Tehama Street, San Francisco, and Pacific Mutual Bldg., Los Angeles.

PLUMBING CONTRACTORS
Alex Coleman, 706 Ellis St., San Francisco.
Gilley-Schmid Company, 198 Otis St., San Francisco.
Hateley & Hateley, 1710 Tenth St., Sacramento.
Herman Lawson, 465 Tehama Street, San Francisco.
Luppen & Hawley, 906 7th St., Sacramento.
Scott Co., Inc., 243 Minna St., San Francisco.
Wm. F. Wilson Co., 240 Fourth Street, San Francisco.
Geo. A. Schuster, 4712 Grove St., Oakland.
W. H. Picard, 5656 College Ave., Oakland.

PLUMBING SUPPLY HOUSES
H. Mueller Manufacturing Company, 1072-76 Howard St., San Francisco.
Standard Pacific Fixtures, 349 Sutter St., San Francisco.
Clarence Drucker, manufacturers' representative, 307 Minna St., San Francisco.

PRESSED STEEL
Berger Manufacturing Co., 1120 Mission St., San Francisco.

PRESSURE REGULATORS
Vaughn-G. E. Witt Co., 4224-28 Hollis Street, Emeryville, Oakland.

PUMPING MACHINERY
Simonds Machinery Co., 816 Folsom Street, San Francisco; 520 East 4th Street, Los Angeles.

PUMPS—HAND OR POWER
Ocean Shore Iron Works, 558 Eighth St., San Francisco.
S. F. Bowser & Co., Inc., 425 Brannan St., San Francisco.

REFRIGERATORS
"General Electric," sold by the George Belsey Company, Architects' Building, Los Angeles; L. H. Bennett, Rialto Bldg., San Francisco.

REINFORCING STEEL
Soule Steel Company, Inc., Rialto Bldg., San Francisco, and Los Angeles.
Gunn, Carle & Co., Inc., 444 Market St., San Francisco.
Pacific Coast Steel Co., Hunter-Dulin Bldg., San Francisco.
United Alloy Steel Corporation, Canton, Ohio; Western Sales Office, Santa Fe Bldg., San Francisco.
Truscon Steel Company, Sharon Bldg., San Francisco.

ROOF MATERIALS
El Rey Products Co., 1633 San Pablo St., Los Angeles; 960 7th St., San Francisco; 65 Columbia St., Seattle; 850 E. Taylor St., Portland.
Kraftile Company, office and factory at Niles; 55 New Montgomery Street, San Francisco.
"Malthoid" and "Ruberoid," also "Pahco" 10 and 20 year roofs, manufactured by the Paraffine Companies, Inc., San Francisco, Los Angeles, Oakland, Portland and Seattle.
Gladding, McBean & Co., 660 Market St., San Francisco; 621 S. Hope St., Los Angeles; 1500 First Ave. South, Seattle; 454 Everett St., Portland; 15th and Dock Sts., Tacoma, and 22nd and Market Sts., Oakland.
N. Clark & Sons, 112-116 Natoma Street, San Francisco; works, West Alameda, California.
W. S. Dickey Clay Mfg. Co., 604 Mission St., San Francisco.
Jones Brothers Asbestos Supply Co., 500 Second St., San Francisco.
Johns-Manville Corporation of California, 159 New Montgomery St., San Francisco.
United Materials Co., Sharon Building, San Francisco.

INSTITUTE FAVORS "HONOR AWARDS"

A system of honor awards, "creating year by year a visible history of the advance of architecture in the nation's cities," is being developed by the American Institute of Architects.

A definite plan governing the determination of exceptional architectural merit has been adopted, and will be carried out by chapters all over the country, it is announced by C. Herrick Hammond of Chicago, president of the Institute.

The plan, Mr. Hammond said, represents nation-wide extension under uniform control of honor award programs already sponsored by chapters in New York, Chicago, Los Angeles and other cities. The results, he pointed out, have justified the effort, as evidenced in awakened interest in good architecture and noticeable improvement in the quality of buildings recently erected.

The Minnesota Chapter, Mr. Hammond also announced, has decided to issue awards for the best in Minneapolis architecture. Similar action, it is expected, will be taken by other chapters so that eventually distinction in architecture will annually receive public recognition throughout the United States.

The aim of the Institute, as stated by Mr. Hammond, is to "encourage the appreciation of architecture, of allied arts of design, and of the industrial arts." Fundamentally, he declared, the system will constitute a comprehensive scheme of education in good design, educational value being paramount.

The honor plan was framed by a special committee of the Institute of which David J. Witmer of Los Angeles is chairman. Other members are:

Joseph D. Leland, Boston; Raymond Hood, New York; John P. B. Sinkler, Philadelphia; Nat G. Walker, Ft. Meyers, Fla.; Pierre Blouke, Chicago; George W. Spearl, St. Louis; Ralph H. Cameron, San Antonio; Arthur Loveless, Seattle; Raymond W. Jeans, San Francisco.

Awards will be determined by a jury selected by the Executive Committee of the Chapter from nominations made by the Chapter Committee on Honor Awards. Each jury is to consist of three corporate members of the Institute not members of the awarding chapter.

The awards apply to plan, function, and design in the following groupings: Dwellings, multiple dwellings, commercial buildings, quasi-public buildings, public schools, public buildings.

Additional awards will be made in the following groups: Group planning, city, community, and regional planning, landscape, memorials, any of the fine arts, any of the applied arts, any of the industrial arts as distinguished from the applied arts.

"A wide distribution of classification," said the committee's report to the Board of Directors of the Institute, "does not make for a complicated program in operation. There are many types, for instance, of commercial buildings. This activity is educational and does not seek primarily to honor the creating artist.

"Therefore, if a splitting up of a group can be made whereby into each section of that group can be placed buildings of like trait so that they can be judged without conflict with buildings of a similar classification but with a different primary trait, the educational value will be furthered and the operation of the program simplified."

NEW CITY ENGINEER FOR BERKELEY

Harry Goodridge, for four years assistant city engineer of Berkeley, has been named city engineer succeeding the late Col. A. J. Eddy. Mr. Goodridge is a graduate of the University of Toronto. In 1912 he received the degree of bachelor of applied science after completing post-graduate work in hydraulics. In 1920 he was employed by the Foundation Company at Richmond during the construction of the new refinery. While working in the office of George A. Posey, county surveyor, Mr. Goodridge had charge of the construction of the sewer systems for Niles, Newark, Irvington and Centerville. After leaving the county office, he became assistant city engineer of Berkeley.

OIL BURNER SHOW

Hundreds of home owners, architects and builders throughout the San Francisco bay district, attended the first Oil Burner Show to be held in Oakland, California, according to C. H. Beebe, sales promotion manager of the S. T. Johnson Co.

The exhibition celebrated the Johnson Company's 25th anniversary as pioneer manufacturers of a complete line of oil burning equipment for every heating and power purpose

One of the features of the show was the silver cut-away model of the new electrically ignited Johnson automatic oil burner, as well as the successive Johnson burners from the early days of their manufacture.

Each evening a motion picture entitled, "A New Freedom in Home Heating" was shown. This picture was a non-technical presentation of the advantages of automatic oil heat, and the production of Johnson oil burners in the company's Oakland factory.

COLONIAL HOUSE

Plans have been prepared by Willis Lowe, Oakland architect, for an $18,000 Colonial residence at Lakeshore Highlands, Oakland, for O. E. Nelson.

WHAT'S WHAT IN MATERIALS

WHO'S WHO AMONG CONTRACTORS

ALPHABETICAL LIST OF ADVERTISERS ON PAGE 126

ROOF MATERIALS—(Continued)
Western Asbestos Magnesia Company, 25 South Park, San Francisco.
"Torfolcum" Insulation manufactured by Mailliard & Schmiedel, 203 California St., San Francisco.
Pioneer Paper Co., 5500 South Alameda, Los Angeles; Hearst Bldg., San Francisco; offices in Portland, Seattle, Salt Lake City, Spokane and Denver.

RUGS AND CARPETS IMPORTED
Kent-Costikyan, Inc., 485 Fifth Ave., New York City, with offices at 442 Post St., San Francisco and 816 South Figueroa St., Los Angeles.
W. & J. Sloane, 216 Sutter St., San Francisco.

SAFETY TREADS
Price-Teltz Company, 683 Howard St., San Francisco.
Gunn, Carle & Co., 444 Market St., San Francisco.

SASH CHAINS
American Chain Company, Inc., Bridgeport, Conn., and 425 Second St., San Francisco.
The Smith & Egge Mfg. Co., P. O. Box 1040, Bridgeport, Conn.; 506 American Bank Bldg., Los Angeles.

SCAFFOLDING FOR CONTRACTORS
Steelform Contracting Company, Monadnock Bldg., San Francisco; Edwards & Wildey Bldg., Los Angeles.

SEATING—SCHOOL, THEATER, CHURCH
Home Manufacturing Company, Inc., 552 Brannan St., San Francisco.
C. F. Weber & Co., San Francisco, Los Angeles, Phoenix, Ariz.; Reno, Nevada.

SELF-RELEASING FIRE EXIT DEVICES
Von Dupria, manufactured by Vonnegut Hardware Company, Indianapolis; sold by D. A. Pancoast Co., 605 Market St., San Francisco.

SHADES
William Volker & Co., 631 Howard Street, San Francisco; 2301 East 7th Street, Los Angeles.

SHEATHING AND SOUND DEADENING
Western Asbestos Magnesia Co., 25 South Park, San Francisco.

SHEET METAL WORKS
Forderer Cornice Works, Potrero Ave., San Francisco.

SHOW CASES
Home Manufacturing Company, Inc., 552 Brannan St., San Francisco.
Mullen Manufacturing Company, 64 Rausch St., San Francisco.

SOUND ABSORBING TREATMENT
Johns-Manville Corporation, 159 New Montgomery St., San Francisco.

SIGNALING & PROTECTIVE SYSTEMS
Garnett, Young & Co., 390 Fourth St., San Francisco.

STEEL FABRIC
Wickwire - Spencer Steel Corporation, 144 Townsend St., San Francisco.
Soule Steel Company, Rialto Bldg., San Francisco, and Los Angeles.

STEEL FORMS
Steelform Contracting Company, Monadnock Bldg., San Francisco; Edwards & Wildey Bldg., Los Angeles.

STEEL TANKS
Ocean Shore Iron Works, 55 Eighth St., San Francisco.

STEEL LUMBER
Genfire Steel Co., Sheldon Bldg., San Francisco; Builders' Exchange, Oakland.

STEEL SASH
Bayley-Springfield solid steel sash, sold by Gunn, Carle & Co., 444 Market St., San Francisco.
"Fenestrn" Solid Steel Sash, manufactured by Detroit Steel Products Co., factory sales office, 526 Hunter-Dulin Bldg., San Francisco.
Berger Manufacturing Co., 1120 Mission St., San Francisco.
Michel & Pfeffer Iron Works, 1415 Harrison St., San Francisco.
Truscon Steel Company, 74 New Montgomery St., San Francisco.
W. C. Lea, 653 South Clarence St., Los Angeles.

STEEL—STRUCTURAL
Bethelhem Steel Company, Pittsburg, Pa., Matson Building, San Francisco; Pacific Building, Los Angeles; L. C. Smith Building, Seattle; American Bank Building, Portland, Oregon.
Golden Gate Iron Works, 1541 Howard St., San Francisco.
Judson Pacific Company, C. F. Weber Bldg., Mission and Second Sts., San Francisco; shops, San Francisco and Oakland.
McClintic - Marshall Company, 621 Florida Street, San Francisco.
Herrick Iron Works, 18th and Campbell Sts., Oakland.
Pacific Coast Eng. Co., foot 14th St., Oakland
Pacific Coast Steel Co., Hunter-Dulin Bldg., San Francisco.
Palm Iron & Bridge Works, Sacramento.
Schrader Iron Works, Inc., 1247 Harrison St., San Frnncisco.
Western Iron Works, 141 Beale Street, San Francisco.
Consolidated Steel Corporation, 1200 N. Main St., Los Angeles.

STONE
Indiana Limestone Company, Tribune Tower, Chicago, Ill., and Crocker First National Bank Bldg., San Francisco.

STORE FRONTS
Zouri Drawn Metals Company, Chicago Heights, Illinois. (Zouri Company of California 1208 Howard St., San Francisco.)

STORE FURNITURE
Berger Manufacturing Co., 1120 Mission St., San Francisco.

STREET LIGHTING EQUIPMENT
Westinghouse Electric and Mfg. Co., East Pittsburgh, Pa., and First National Bank Bldg., San Francisco.

STRUCTURAL STEEL SHAPES
Bethlehem Steel Company, Matson Building, San Francisco; Pacific Finnnce Building, Los Angeles; L. C. Smith Building, Seattle; Americnn Bank Building, Portland, Oregon.

SWITCHES AND SWITCHBOARDS
Drendell Electrical & Mfg. Co., 1345 Howard St., San Francisco.
Westinghouse Elec. & Mfg. Co., First Nat. Bank Bldg., San Francisco; general offices and Works, Pittsburgh, Pa.

TELEPHONES—AUTOMATIC, PRIVATE
Automatic Electric Inc., Chicngo, Ill.; 1112 Pacific Finance Bldg., Los Angeles.

THERMOSTATS FOR HEAT REGULATION
Johnson Service, Milwaukee, Wis.; Rialto Building, San Francisco.

TERRA COTTA
N. Clark & Sons, 116 Natoma Street, San Francisco.
National Terra Cotta Society, 230 Park Avenue, New York, N. Y.

TILE—BATHROOM AND KITCHEN
Porstelain Tile Company, Ltd., 557 Market St., San Francisco, and 410 Madison St., Oakland.

TILE—RUBBER, CLAY, CORK ETC.
Rossman Corporation of California, 49 Geary Street, San Francisco, and Architects' Bldg., Los Angeles.
N. Clark & Sons, 112-116 Natoma Street, San Francisco; works, West Alameda, Cal.
Congoleum-Nairn, Inc., D. N. & E. Walter & Co., San Francisco, and Broadway Department Store, Los Angeles
Gladding, McBean & Co., 660 Market St., San Francisco; 621 S. Hope St., Los Angeles; 1500 First Ave. South, Seattle; 454 Everett St., Portland; 15th and Dock Sts., Tacoma, and 22nd and Market Sts., Oakland.
Kraftile Company, factory at Niles; 55 New Montgomery Street, San Francisco.
Mangrum-Holbrook, Inc., 1235 Mission St., San Francisco.
United States Rubber Co., 300 Second St., San Francisco, and 923 Los Angeles St., Los Angeles, Calif.

UNDERFLOOR DUCT SYSTEM
Johns-Manville Corporation, 159 New Montgomery St., San Francisco.

VALVES—PIPES AND FITTINGS
Clarence Drucker, Manufacturers' Agent, 307 Minna Street, Snn Francisco.
Grinnell Co., Fifth and Brannan Sts., San Francisco.
Mueller Company, 1072 Howard Street, San Francisco.
Sloan Valve Company, Chicago; E. C. Whalen, 954 Western Pacific Bldg., Los Angeles; W. J. Driscoll, 482 Monadnock Bldg., San Francisco; E. C. Fallein, U. S. National Bank Bldg., Denver; S. D. Cochran, L. C. Smith Bldg., Seattle, Wash.

VARNISHES
Bass-Hueter Paint Company, San Francisco, Los Angeles, Portland, Seattle.
The Paraffine Companies, Inc., San Francisco, Los Angeles, Portland and Seattle.
Hill, Hubbell & Co., Los Angeles, Oakland, Portland, Seattle and 160 Fremont St., San Francisco.
General Paint Company, Los Angeles, San Francisco, Oakland, Seattle, Spokane and Portland.

VENETIAN BLINDS
C. F. Weber & Company, 601 Mission St., San Francisco.

VENTILATING EQUIPMENT
B. F. Sturtevant Co., Monadnock Bldg., San Francisco; Los Angeles, Portland and Seattle.

VENTILATORS
"The Panelouvre," sold by M. E. Hammond, Pacific Bldg., San Francisco.

VITREOUS CHINAWARE
Standard - Pacific Plumbing Fixtures, 349 Sutter St., San Francisco; 919 W. Seventh St., Los Angeles; 1301 Fifth Ave., Seattle Wash.; 48 Fifth St., Portland, Ore.

WATERPROOF CEMENT
Victor Hydro-plastic waterproof cement, manufactured by Southwestern Portland Cement Co., 356 S. Spring St., Los Angeles.

WALL BEDS, SEATS, ETC. (See Beds).

WIRING SYSTEM
General Electric Company, San Francisco and all principal Coast cities.

WATER COOLERS
General Electric Refrigerator, L. H. Bennett, Rialto Building, San Francisco, and the George Belsey Company, Architects Building, Los Angeles.

WATER HEATERS
Apex Electric Hot Water Heaters, distributed by Sandoval Sales Co., 115 Jessie St., San Francisco.
Pittsburgh Water Heater Co. (gas), 478 Sutter St., San Francisco.
Ruud Heater Co. (gas), 245 Mason St., San Francisco.
Wesix Heater Company, Rialto Building, San Francisco.

WATERPROOFING
Johns-Manville Corporation, 159 New Montgomery St., San Francisco.
Master Builders Company, Mills Bldg., San Francisco; 426 So. Spring Street, Los Angeles,(also Seattle, Portland and Spokane.
The Paraffine Companies, Inc., San Francisco, Los Angeles, Oakland, Portland, Seattle.
Gunn, Carle & Co., 444 Market St., San Francisco.

WATER SOFTENERS AND FILTERS
The Permutit Company, 440 Fourth Ave., New York City, and Balboa Bldg., San Francisco.

WATER SUPPLY SYSTEMS
Kewanee Water Supply System—Simonds Machinery Co., agents, 816 Folsom St., San Francisco; 520 East Fourth Street, Los Angeles.

WINDOW SHADES
William Volker & Co., 631 Howard Street, San Francisco; 2301 East 7th Street, Los Angeles.
W. & J. Sloane, 216 Sutter St., San Francisco.
D. N. & E. Walter & Co., 562 Mission St., San Francisco.

WINDOWS—STEEL, REVERSIBLE, ETC.
Cnmpbell and Voigtmann Metal Windows, distributed by Fire Protection Products Company, 1101 Sixteenth St., San Francisco.
Crittall Casement Window Company, Detroit, Mich. Badt-Falk & Co., 74 Montgomery Street, San Francisco. F. T. Crowe & Co., 216 Walker Bldg., Seattle. R. H. Hoskins, 510 Hyde Bldg., Spokane. McCraken-Ripley Co., 61 Albina Avenue, Portland. F. T. Crowe & Co., 1177 Dock Street, Tacoma, Wash. Crittall Casement Window Co., 504 Union Insurance Bldg., Los Angeles.
Hauser Window Co., 1362 Harrison St., San Francisco.
Detroit Steel Products Co., Detroit, Mich.; Hunter-Dulin Building, San Francisco and Pershing Square Building, Los Angeles.
W. C. Lea, 653 South Clarence St., Los Angeles.

WIRING SYSTEM
Westinghouse Electric and Manufacturing Company, First National Bank Bldg., San Francisco; general offices and works Pittsburgh, Pa.

Estimator's Guide

Giving Cost of Building Materials, Wage Scale, Etc.

Amounts quoted are figuring prices and are made up from average quotations furnished by material houses to three leading contracting firms of San Francisco.

All prices and wages quoted are for San Francisco and the Bay District. There may be slight fluctuation of prices in the interior and southern part of the state. Freight cartage, at least, must be added in figuring country work.

Overtime in wage scale should be credited with time and a half, Sunday and holidays double.

Bond—1½% amount of contract.

Brickwork—
Common, $33 to $40 per 1000 laid, (according to class of work).
Face, $100 to $125 per 1000 laid, (according to class of work).
Brick Steps, using pressed brick, $1.10 lin. ft.
Brick Walls, using pressed brick on edge, 75c sq. ft. (Foundations extra.)
Brick Veneer on frame buildings, $1.00 sq. ft.
Common, f.o.b. cars, $14.50 plus cartage.
Face, f.o.b. cars, $55.00 per 1000, carload lots.

HOLLOW TILE FIREPROOFING (f.o.b. cars in carload lots).

3x12x12 in.	$ 96.00 per M
4x12x12 in.	108.00 per M
6x12x12 in.	156.00 per M
8x12x12 in.	255.00 per M

HOLLOW BUILDING TILE (f.o.b. cars in carload lots).

8x12x5½	$108.00
6x12x5½	74.00

Composition Floors — 18c to 30c per sq. ft. In large quantities, 18c per sq. ft. laid.
Rubber Tile—65c per sq. ft.

Terazzo Floors—50c to 60c per sq. ft.
Terazzo Steps—$1.50 per lin. ft.
Mosaic Floors—80c per sq. ft.

Concrete Work (material at San Francisco bunkers) — Quotations below 2000 lbs. to the ton.

No. 3 rock, at bunkers	$1.40 per ton
No. 4 rock, at bunkers	1.40 per ton
Eliott pea gravel, at bnkrs.	1.40 per ton
Washed gravel, at bnkrs.	1.40 per ton
Eliott top gravel, at bnkrs.	1.40 per ton
City gravel, at bunkers	1.40 per ton
River sand, at bunkers	1.00 per ton
Delivered bank sand	1.00 cu. yd.

Note—Above prices are subject to discount of 10c per ton on invoices paid on or before the 15th of month, following delivery.

SAND
Del Monte, $1.75 to $3.00 per ton.
Fan Shell Beach (car lots, f.o.b. Lake Majella), $2.75 to $4.00 per ton.
Cement, $2.44 per bbl. in paper sks.
Cement (f.o.b. Job, S. F.) $2.64 per bbl.
Cement (f.o.b. Job, Oak.), $2.64 per bbl.
Rebate of 10 cents bbl. cash in 15 days.
Atlas "White" .....$ 8.50 per bbl.
Forms, Labors average 22.00 per M.
Average cost of concrete in place, exclusive of forms, 28c per cu. ft.
4-inch concrete basement floor.....13c to 14c per sq. ft.
4½-inch concrete basement floor.....14c to 15c per sq. ft.
2-inch rat-proofing....6½c per sq. ft.
Concrete Steps.....$1.26 per lin. ft.

Dampproofing—
Two-coat work, 20c per yard.
Membrane waterproofing—4 layers of saturated felt, $5.50 per square.
Hot coating work, $2.00 per square.

Electric Wiring — $3.00 to $9.00 per outlet for conduit work (including switches).
Knob and tube average $2.25 to $5.00 per outlet, including switches.

Elevators—
Prices vary according to capacity, speed and type. Consult elevator companies. Average cost of installing an automatic elevator in four-story building, $2600; direct automatic, about $2500.

Excavation—
Sand, 70 cents; clay or shale, $1.25 per yard.
Teams, $10.00 per day.
Trucks, $21 to $27.50 per day.
Above figures are an average without water. Steam shovel work in large quantities, less; hard material, such as rock, will run considerably more.

Fire Escapes—
Ten-foot balcony, with stairs, $65.00 per balcony.

Glass (consult with manufacturers)—
Double strength window glass, 15c per square foot.
Quartz Lite, 50c per square foot.
Plate, 75c per square foot.
Art, $1.00 up per square foot.
Wire (for skylights), 27c per square foot.
Obscure glass, 25c per square foot.
Note—Add extra for setting.

Heating—
Average, $1.80 per sq. ft. of radiation, according to conditions.

Iron—Cost of ornamental iron, cast iron, etc., depends on designs.

Lumber (prices delivered to bldg.site)
Common, $25.00 per M (average).
Common O. P. select, average, $34.00 per M.

1 x 6 No. 3—Form lumber	$21.00 per M
1 x 4 No. 1 flooring	45.00 per M
1 x 4 No. 2 flooring	42.00 per M
1 x 4 No. 3 flooring	35.00 per M
1 x 6 No. 2 and better flooring	43.00 per M
1¼ x 4 and 6 No. 2 flooring	50.00 per M

Slash grain—

1 x 4 No. 2 flooring	$37.00 per M
1 x 4 No. 3 flooring	35.00 per M
No. 1 common run to T. & G.	30.00 per M
Lath	5.50 per M

Shingles (add cartage to prices quoted)—

Redwood, No. 1	$ .90 per bdle.
Redwood, No. 2	.75 per bdle.
Red Cedar	.90 per bdle.

Hardwood Flooring (delivered to building)—

13-16x3¼" T & G Maple	$135.00 M ft.
1 1-16x2¼" T & G Maple	145.50 M ft.
⅞x3½ sq. edge Maple	132.50 M ft.

	13-16x2¼" T&G	¾x2" T&G	5-16x2" Sq. Ed.
Clr. Qtd. Oak	$220.00 M	$160.00 M	$178 M
Sel. Qtd. Oak	150.00 M	122.00 M	131 M
Clr. Pla. Oak	155.00 M	110.00 M	113 M
Sel. Pla. Oak	132.00 M	79.00 M	97 M
Clear Maple	147.00 M	101.00 M	
Laying & Finishing	16c ft.	15c ft.	13c ft.

Wage—Floor layers, $9.00 per day.

Building Paper—

1 ply per 1000 ft. roll	$4.00
2 ply per 1000 ft. roll	6.00
3 ply per 1000 ft. roll	9.25
Sash cord com. No. 7	$ 1.05 per 100 ft.
Sash cord com. No. 8	1.20 per 100 ft.
Sash cord spot No. 7	1.75 per 100 ft.
Sash cord spot No. 8	1.10 per 100 ft.
Sash weights cast iron	57.00 ton

Nails, $3.25 base.
Belgian nails, $3.00 base.

Millwork—
O. P. $85.00 per 1000. R. W., $95.00 per 1000 (delivered).
Double hung box window frames, average, with trim, $7.00 and up, each.
Doors, including trim (single panel, 1¾ in. Ore. pine) $7.50 and up, each.
Doors, including trim (five panel, 1¾-in. Oregon pine) $6.50 each.
Screen doors, $3.50 each.
Patent screen windows, 30c a sq. ft.
Cases for kitchen pantries seven ft. high, per lineal ft., $7.00 each.
Dining room cases, $8.00 per lineal foot.
Labor—Rough carpentry, warehouse heavy framing (average), $12.00 per M.
For smaller work, average, $25 to $32 per 1000.

Marble—(Not set), add 50c to 65c per ft. for setting.

Alaska	$1.40 sq. ft.
Columbia	1.40 sq. ft.
Golden Vein Yule Colo.	1.70 sq. ft.
Pink Lepanto	1.50 sq. ft.
Italian	1.75 sq. ft

Tennessee ..... 1.70 sq. ft.
Verde Antique ..... 3.00 sq. ft.

NOTE—Above quotations are for ⅞ inch wainscot in large slabs f.o.b. factory. Prices on all other classes of work should be obtained from the manufacturers.

Floor Tile—Set in place.

Verde Antique ..... $2.75 sq. ft.
Tennessee ..... 1.60 sq. ft.
Alaska ..... 1.35 sq. ft.
Columbia ..... 1.45 sq. ft.
Yule Colorado ..... 1.45 sq. ft.
Travertine ..... 1.60 sq. ft.

Painting—

Two-coat work .....30c per yard
Three-coat work .....40c per yard
Whitewashing ..... 4c per yard
Cold Water Painting ..... 8c per yard
Turpentine, 90c per gal. in cans and 75c per gal. in drums.
Raw Linseed Oil—$1.34 gal. in bbls.
Boiled Linseed Oil—$1.37 gal.in bbls.

Carter or Dutch Boy White Lead in Oil (in steel kegs)

Per. Lb.
1 ton lots, 100 lbs. net weight 12¾c
500 lb. and less than 1 ton lots 13c
Less than 500 lb. lots 13½c

Dutch Boy Dry Red Lead and Litharge (in steel kegs)

1 ton lots, 100 lb. kegs net weight 12¾c
500 lb. and less than 1 ton lots 13c
Less than 500 lb. lots 13½c

Red Lead in Oil (in steel kegs)

1 ton lots, 100 lbs. net weight 14¼c
500 lb. and less than 1 ton lots 14½c
Less than 500 lb. lots 14¾c
Note—Accessibility and conditions cause wide variance of costs.

Patent Chimneys—

6-inch.....$1.00 lineal foot
8-inch..... 1.50 lineal foot
10-inch..... 1.85 lineal foot
12-inch..... 2.10 lineal foot

Pipe Casings — 14" long (average), $5.00 each.

Plastering—Interior—

	Yard
1 coat, brown mortar only, wood lath	$0.40
2 coats, lime mortar hard finish, wood lath	.52
2 coats, hard wall plaster, wood lath	.55
3 coats, metal lath and plaster	1.00
Keene cement on metal lath	1.25
Ceilings with ¾ hot roll channels metal lath	.67
Ceilings with ¾ hot roll channels metal lath plastered	1.40
Shingle partition ¾ channel lath 1 side	.62
Single partition ¾ channel lath 2 sides 2 inches thick	2.20
4-inch double partition ¾ channel lath 2 sides	1.30
4-inch double partition ¾ channel lath 2 sides plastered	2.45

Plastering—Exterior—

	Yard
2 coats cement finish, brick or concrete wall	$1.00
2 coats Atlas cement, brick or concrete wall	1.25
3 coats cement finish No. 18 gauge wire mesh	1.75
3 coats Atlas finish No. 18 gauge wire mesh	2.05

Wood lath, $6.00 per 1000.
2.5-lb. metal lath (dipped) ..... .17
2.5-lb. metal lath (galvanized) ..... .20
3.4-lb. metal lath (dipped) ..... .22
3.4-lb. metal lath (galvanized) ..... .27
¾-inch hot roll channels, $45 per ton.
Hardwall plaster, $15.40 ton; $12.95 in paper sacks (rebate 15c sack).
Finish plaster, $16.40 ton; in paper sacks, $13.85 (rebate 10c sack).
Dealer's commission, $1.00 off above quotations.
Hydrate Lime, $19.50 ton.
Lime, f.o.b. warehouse, $2.25 bbl.; cars, $2.15
Lime, bulk (ton 2000 lbs.), $16.00 ton.
Wall Board 5 ply, $43.00 per M.

Composition Stucco—$1.60 to 2.00 per sq. yard (applied).

Plumbing—

From $60.00 per fixture up, according to grade, quantity and runs.

Roofing—

"Standard" tar and gravel, $5.25 per square for 30 squares or over.
Less than 30 squares, $5.50 per sq.
Tile, $19.00 to $35.00 per square.
Redwood Shingles, $11.00 per square in place.
Cedar Shingles, $10.50 sq. in place.
Recoat, with Gravel, $3.00 per sq.

Sheet Metal—

Windows—Metal, $1.85 a sq. foot.
Fire doors (average), including hardware, $2.15 per sq. foot.

Skylights—

Copper, $1.35 sq. ft. (not glazed).
Galvanized iron, 30c sq. ft. (not glazed).

Stone—

Granite, average, $6.00 sq. foot in place.
Sandstone, average Blue, $3.50; Boise, $2.60 sq. ft. in place.
Indiana Limestone, $2.60 per sq. ft. in place.

Store Fronts—

Copper sash bars for store fronts, corner, center and around sides, will average 75c per lineal foot.
Note—Consult with agents.

Steel Structural—$95.00 per ton erected). This quotation is an average for comparatively small quantities
Light truss work higher; plain beam and column work in large quantities, less.
Cost of steel for average building (erected), $91.00 per ton.

Reinforcing—

Base price for car load lots, $2.60 100 lbs., f.o.b. cars.
Average cost to install, $23 per ton.

Steel Sash—

All makes, from S. F. stock, 20c to 35c per square foot.
All makes, plant shipment, 22c to 35c per square foot.
(Includes mullions and hardware.)

Tile—White glazed, 75c per foot, laid.
White floor, 75c per foot, laid.
Colored floor tile, $1.00 per ft. laid.
Promenade tile, 80c per sq. ft., laid.

1929 WAGE SCHEDULE FOR SAN FRANCISCO BUILDING TRADES

Craft	Journeymen Mechanics
Asbestos workers	$ 8.00
Bricklayers	11.00
Bricklayers' hodcarriers	7.00
Cabinet workers, (shop)	7.50
Cabinet workers, (outside)	9.00
Carpenters	9.00
Cement finishers	9.00
Electric workers	9.00
Electrical fixture hangers	8.00
Elevator constructors	10.00
Elevator helpers	7.00
Engineers, portable and hoisting	9.00
Glass workers	8.50
Hardwood floormen	9.00
Housemovers	8.00
Housesmiths, arch. iron, skilled all branches	9.00
Housesmiths, arch. iron, not skilled all branches	8.00
Housesmiths, reinforced concrete, or rodmen	9.00
Iron workers (bridge & structural) including engineers	11.00
Laborers, building (6-day week)	5.50
Lathers, channel iron	10.00
*Lathers, all other	8.50
Marble setters	10.00
Marble helpers	6.00
Marble cutters and copers	8.00
Marble bed rubbers	7.50
Marble polishers and finishers	7.00
Millmen, planing mill department	7.00
Millmen, sash and door	6.00
Millwrights	8.00
Model makers	10.00
Model casters	9.00
Mosaic and Terrazzo workers	9.00
Mosaic and Terrazzo helpers	6.00
Painters	9.00
Painters, varnishers and polishers (shop)	7.50
Painters, varnishers and polishers (outside)	9.00
Pile drivers and wharf builders	9.00
Pile drivers engineers	10.00
Plasterers	11.00
Plasterers' hodcarriers	7.50
Plumbers	10.00
Roofers, composition	8.00
Roofers, all others	8.00
Sheet metal workers	9.00
Sprinkler fitters	10.00
Steam fitters	10.00
Stair builders	9.00
Stone cutters, soft and granite	8.50
Stone setters, soft and granite	9.00
Stone carvers	8.50
Stone derrickmen	9.00
Tile setters	10.00
Tile helpers	6.00
Auto truck drivers, less than 2500 lbs.	5.50
Auto truck drivers, 2500 to 4500 lbs.	6.00
Auto truck drivers, 4500 to 6500 lbs.	6.50
Auto truck drivers, 6500 lbs. and over	7.00
General teamsters, 1 horse	5.50
General teamsters, 2 horses	6.00
General teamsters, 4 horses	6.50
Plow teamsters, 4 horses	6.50
Scraper teamsters, 2 horses	6.00
Scraper teamsters, 4 horses	6.00

*On wood lath if piece rates are paid they shall be not less than such an amount as will guarantee, on an average day's production of 1600 lath, the day wage set forth.

Eight hours shall constitute a day's work for all Crafts except as otherwise noted.

Plasterer's hodcarriers, bricklayers' hodcarriers, roofers, laborers, and engineers, portable and hoisting, shall start 15 minutes before other workmen, both at morning and noon.

Five and one-half days, consisting of eight hours on Monday to Friday inclusive, and four hours on Saturday forenoon shall constitute a week's work.

Overtime shall be paid as follows: For the first four hours after the first eight hours, time and one-half. All time thereafter shall be paid double time. Saturday afternoon (except laborers), Sundays from 12 midnight Saturday, and Holidays from 12 midnight of the preceding day shall be paid double time. On Saturday afternoon laborers, building, shall be paid straight time.

Where two shifts are worked in any twenty-four hours shift time shall be straight time. Where three shifts are worked, eight hours pay shall be paid for seven hours on the second and third shifts.

All work shall regularly be performed between the hours of 8 A. M. and 5 P. M., provided, that in emergencies or where premises cannot be vacated for work by mechanics until the close of business, men then reporting for work shall work at straight time; but any work performed after midnight shall be paid time and one-half except on Saturday afternoons, Sundays, and holidays, when double time shall be paid.

Recognized holidays to be New Year's Day, Decoration Day, Fourth of July, Labor Day, Admission Day, Thanksgiving Day and Christmas Day.

Men ordered to report for work, for whom no employment is provided, shall be entitled to two hours pay.

PACIFIC FOUNDRY COMPANY BUYS MORE PROPERTY TO MEET NEEDS OF GROWING BUSINESS

EXPANSION of one of San Francisco's largest industries is announced by the management of the Pacific Foundry Company. With the acquisition of the properties of the Link Belt, Meese & Gottfried Company at Nineteenth and Harrison streets, the Pacific Foundry Company becomes owner of one of the most pretentious manufacturing plants in the Bay region.

The holding acquired is improved with three two-story brick buildings occupying ground with a frontage of 245 feet on Nineteenth street by 137 feet 6 inches on both Harrison street and Treat avenue.

The Pacific Foundry Company occupies practically all of the rest of this block up to Twentieth street, the area being 332 by 243 feet. On the west side of Treat avenue they also own 75 by 122 feet 6 inches, as well as the southwest corner of Harrison street and Treat avenue, which is 150 by 120 feet.

In addition the foundry has a holding on Folsom street opposite the block where the Pacific Gas and Electric Company is building its mammoth $11,000,000 steam generating plant.

Business of the Pacific Foundry Company has grown tremendously since the firm was first established in 1902 by the late Edward J. Fowler. It found immediate demand for its products and has been forced to expand several times, and during the last five years there has been a 50 per cent increase in business, according to an officer of the company.

Products from its two modernly equipped foundries, machine shop and pattern shop, are distributed throughout the entire United States. Roasting furnaces are being built for such nationally known concerns as the United States Steel Corporation, Penzoil Company, Standard Oil of New Jersey, and many other oil companies.

The foundry company has developed a large market for monel metal and nickel for which it is the exclusive distributor on the Pacific Coast, representing the International Nickel Company, Inc. Other nationally known metals manufactured under their own trade mark are corrosiron, pycrost and flintcast.

Some of the most important installations of corrosiron on the Pacific Coast have been made by the Pacific Foundry Company. The Pacific Foundry Company operates a New York office at 551 Fifth avenue and through this Eastern branch the company has placed many important contracts for corrosiron, including practically all the public buildings in the Atlantic States.

The officers of the company are Arthur H. Fleming, president; Henry J. Hartley, vice president; Dudley Baird, vice president; Walter Schroeder, treasurer. Charles Kelly, secretary, and John S. Fowler, assistant secretary.

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BASHFORD, Katherine	710
BUILDING MATERIAL EXHIBIT	First & Mezz.
COATE, Roland E.	701
DeAHNA, Manfred	806
DODD & RICHARDS	606
EAGER, W. W.	505
HEAD, Chalfant	806
HUTCHASON, Arthur	1102
JOHNSON, Reginald D.	707
KELLEY, H. Roy	1102
KISTNER, Theodore C.	814
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MARSH, Norman F.	516
MARSTON & MAYBURY	403
MITTRY, George	501
MOODY, Walter L.	312
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NEWTON, H. C.	502
NOMLAND, Kemper	615
PARKER, Llewellyn A.	804
PHILLIPS, Ralph E.	603
POWELL, Herbert J.	516
RICHARD, William	607
SEDGLEY, Arlos R.	816
SIMPSON CONT. COMPANY	1007
SMITH, D. D.	516
SMITH, Glen Elwood	1210
STANTON, REED & HIBBARD	1107
STAUNTON, Wm. S. Jr.	806
WATSON, L. F.	903
WHARTON, Heth	802
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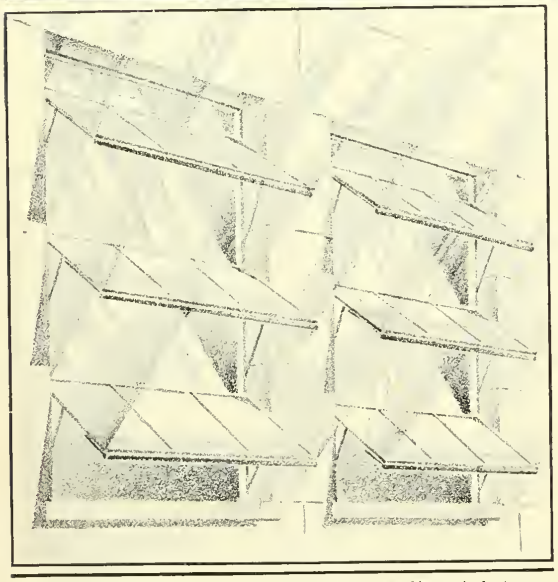

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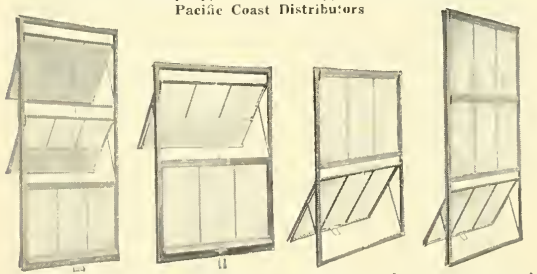

Upper two sash open — bottom sash closed. | Upper sash open — lower sash closed. | Upper sash closed — lower sash open. | Bottom sash open — upper two sash closed.

STATEMENT OF THE OWNERSHIP, MANAGEMENT, CIRCULATION, ETC., REQUIRED BY THE ACT OF CONGRESS OF AUGUST 24, 1912,

Of The Architect and Engineer, published monthly at San Francisco, Calif., for October 1, 1929.

State of California, City and County of San Francisco, ss.:

Before me, a notary public in and for the state and county aforesaid, personally appeared W. J. L. Kierulff, who, having been duly sworn according to law, deposes and says that he is the Business Manager of The Architect and Engineer, and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management (if daily paper, the circulation), etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, embodied in section 411, Postal Laws and Regulations, printed on the reverse of this form, to-wit:

1. That the names and addresses of the publisher, editor, managing editor, and business managers are:

Publisher, The Architect and Engineer, Inc., 1662 Russ Bldg., San Francisco, Calif.

Editor, F. W. Jones, 1662 Russ Bldg., San Francisco, Calif.

Managing Editor—None.

Business manager, W. J. L. Kierulff, 1662 Russ Bldg., San Francisco, Calif.

2. That the owner is: (If owned by a corporation, its name and address must be stated and also immediately thereunder the names and addresses of stockholders owning or holding one per cent or more of total amount of stock. If not owned by a corporation, the names and addresses of the individual owners must be given. If owned by a firm, company, or other unincorporated concern, its name and address, as well as those of each individual member, must be given.)

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W. J. L. Kierulff, 1662 Russ Bldg., San Francisco, Calif.

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4. That the two paragraphs next above, giving the names of the owners, stockholders, and security holders, if any, contain not only the list of stockholders and security holders as they appear upon the books of the company but also, in cases where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting, is given; also that the said two paragraphs contain statements embracing affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than of a bona fide owner; and this affiant has no reason to believe that any other person, association, or corporation has any interest direct or indirect in the said stock, bonds, or other securities than as so stated by him.

5. That the average number of copies of each issue of this publication sold or distributed, through the mails or otherwise, to paid subscribers during the six months preceding the date shown above is. (This information is required from daily publications only.)

W. J. L. KIERULFF, President.

Sworn to and subscribed before me this 26th day of September, 1929.
(Seal) W. W. HEALEY.
(My commission expires August 29, 1933.)

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LOS ANGELES SAN FRANCISCO

The ARCHITECT AND ENGINEER

DECEMBER
1929

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Los Angeles

*Southern California Telephone Company Building
Los Angeles

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Who's Who in this Issue

A. H. ALBERTSON, architect of Seattle, is a native of Hope, Warren county, N. J., where he was born April 14th, 1872. He is a graduate of architecture from Columbia University. He received his early architectural training in the offices of Clinton & Russell and Howells and Stokes, New York City. He removed to Seattle in 1907 as member of the firm of Howells and Stokes, A. H. Albertson, associate. It was while a member of this firm that the Royal Insurance building was erected in San Francisco. Later the firm became known as Howells and Albertson, then A. H. Albertson, architect, and finally A. H. Albertson and Associates. In the Spanish-American war Mr. Albertson participated in the battle of San Juan Hill and the siege of Santiago, Cuba. He is the author of the Seattle Tenement House Code enacted in 1913, which was responsible for the elimination of slum conditions in Seattle and was also responsible for the earliest American set-back law for high buildings. Mr. Albertson was chairman of the Building Code Commission in 1922, member of the Federal Fair Rentals Commission, 1917-19, director of the American Institute of Architects, 1926-29, and director of the Social Welfare League, Seattle. Other buildings besides the Northern Life Tower designed by his office, are the Security Bank building, Olympia, Municipal building, Everett, Cornish School of Music and the Becker building, Aberdeen.

JOHN PARKINSON AND DONALD B. PARKINSON, architects of the Bullock's Wilshire Boulevard Store building, Los Angeles, are one of the best known architectural firms in Southern California, the elder Parkinson having practiced his profession there for more than a quarter of a century. Donald B. Parkinson was born August 10th, 1895, and according to his father, was "educated with difficulty in the Los Angeles public schools." (Editor's Note: John Parkinson always has enjoyed a fine sense of humor.) Donald B. Parkinson entered the Department of Architecture, Massachusetts Institute of Technology in 1914 and in 1917-18 he did service in the United States Army Air Corps. He spent the years 1920-21 abroad and upon returning to the United States became identified as a member of the firm of John Parkinson and Donald B. Parkinson. Recent examples of their work, besides Bullock's Wilshire building, include the Title Insurance Building and Wilshire Medical building, Los Angeles; Spreckels building, San Diego; California Bank building, Beverly Hills. Work under construction includes the Banks-Huntley building, the Los Angeles branch of the Federal Reserve Bank, executive building for the Southern California Telephone Company and the First National Bank, Beverly Hills.

THOMAS W. LAMB, architect of New York City, who, with H. A. Minton, associate, designed the new Fox theater in San Francisco, is one of the foremost theater architects in the country. For more than twenty years he has been designing theaters, both for the legitimate stage and the movies, throughout the United States, including the E. F. Albee theater, Cincinnati, Midland theater, Kansas City, Oasis theater, Brooklyn, N. Y., State theater, Syracuse, N. Y., Ohio theater, Columbus, Ohio, and the Capitol and Fox theaters in San Francisco. Mr. Lamb has been designing theaters for William Fox since 1909. His first was the old City theater on 14th street, New York City. Speaking of his commission to do this work, Mr. Lamb is quoted as saying: "It is needless to remind you that motion picture projection was not the art then that it is today and I feel quite sure that not even the men who then were engaged in building up chains of theaters had any idea that motion pictures were destined ultimately to supplant in the public favor all other forms of theater entertainment."

A. H. MINTON, who was associated with Mr. Lamb in the design of the new Fox theater, San Francisco, received his professional training at Harvard University, School of Architecture, and later in the offices of W. D. Shea and the City Engineer, San Francisco. He has been practicing architecture since 1911 and for the past seven or eight years has had charge of the design of all of the branch bank buildings for the Bank of Italy.

A. A. FRASER, C. E., who contributes to the Engineering and Construction Department in this issue, is branch manager of the Genfire Steel Company, with offices in the Sheldon building, San Francisco. Mr. Fraser is an associate member of the American Society of Civil Engineers and a graduate of the University of Colorado. In 1916 he was commissioned in the British Royal Flying Corps and was discharged as a captain in 1919. Mr. Fraser now holds a commission in the American Reserve Corps of Engineers. In 1920 he was engaged in engineering work in Santa Domingo and Haiti. Returning to the United States the following year, he spent several years in engineering work for the Portland Cement Association, the Austin Company and as superintendent of construction for the Axelrod Construction Company of New York City. For the past five years he has been associated with the Genfire Steel Company of Youngstown, Ohio.

HAROLD H. WEEKS, whose sketches are reproduced in other pages of this issue, is a member of the staff of W. H. Weeks, architect of San Francisco, in whose office he received his early architectural training. During this period Valare Di Mari acted as an added stimulant in Mr. Weeks' development in designing and water coloring. Mr. Weeks served his country in the army for sixteen months, fourteen of which were spent in France. Part of this time he was in Blois, the heart of the Chateau region, where he was engaged in laying out prisoner of war camps. Returning from France he took a special course in architecture at the University of Pennsylvania. Also, anticipating a trip to Europe or Mexico, he took up sketching, mainly in water colors. The early part of this year Mr. Weeks visited Mexico where he made a great many fine water colors and pencil sketches. Most of his recent sketches are in pencil, those made in some of California's old mining towns being especially interesting.

CONVENTIONS AND EXHIBITIONS

January 1—(last day) All American Sculptural Exhibition, Legion of Honor Building, San Francisco.

January 18—30—International Exhibition of Building Trades and Allied Industries, Brussels, Belgium.

January 27—31—International Heating and Ventilating Exposition, Commercial Museum, Philadelphia.

March 31-April 5th—Twelfth Annual Home Show, Grand Central Palace, New York City.

March—April—International Exhibition of Housing and Modern Industrial Applied Arts. Nice, France.

April 15-May 10—Third Annual Decorative Art Exhibition, Women's City Club, 465 Post street, San Francisco.

May 20—October 1—Exhibition of Modern Industrial and Decorative Arts, Stockholm, Sweeden.

May 21—23—American Institute of Architects, sixty-third convention, Mayflower Hotel, Washington, D. C.

June—Pan-American Congress of Architects, Rio de Janeiro, Brazil.

September—International Architects' Congress, Budapest, Hungary.

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Since 1905

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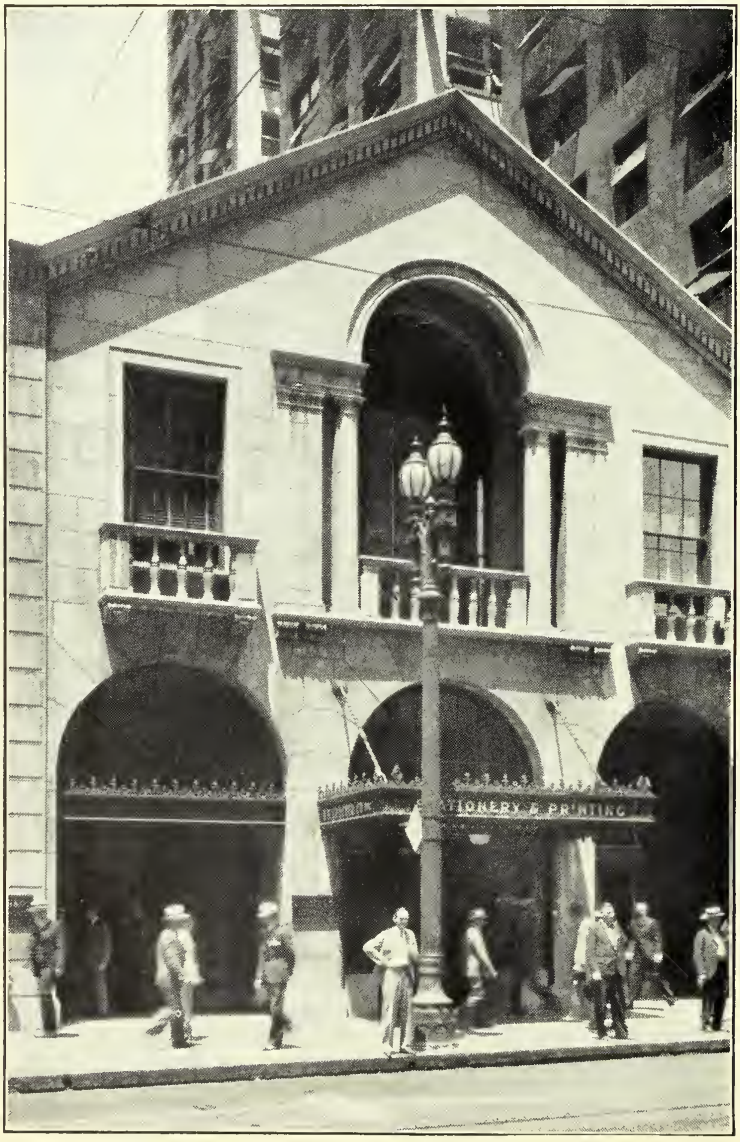

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MAIN LOBBY, NORTHERN LIFE TOWER, SEATTLE, WASHINGTON
A. H. Albertson, Wilson & Richardson, Architects

conceived as a tunnel carved out of the solid, the side walls polished, the floor worn smooth and the ceiling incised and decorated as a civilized caveman might do it.

"Environment had something to do with this. Seattle is almost surrounded by bodies of water with ranges of rugged mountains and higher peaks marking the horizon. In the course of many climbs among these mountains, rock masses, towering pylons and broken spires were discovered, strongly suggestive of powerful though crude architectural bulk of the receding type. If it were possible to secure and reveal in the building some of the massive, enduring and inspiring character of these neighboring Cascades and Olympics, the effort would be well rewarded; and now that the capstone is laid and the flags unfurled, the degree to which the effort has availed rests with the mercies of the public and the savants to appraise.

"Our traditional architectural forms mostly have antecedents in the vegetable world. The Greek Temple in its various parts had a timber prototype. The Corinthian capital, and most other ornamental forms, early and late, came from the vegetable kingdom. On the other hand it was natural that the Northern Life Tower, taking inspiration from the stronger elements of its surroundings, should be influenced by the eternal hills.

"The building was conceived as rising out of the ground, not as sitting traditionally upon the surface — as a part of the earth rather than a thing apart from it. The piers start below the ground and rising uninterrupted shoot slick and clean to their consummation. The colors are earthy — like natural earth and rock colors, and quite similar in order to enhance the monolith and thereby solidity and permanency. The base story of granite, the brickwork, the terra cotta, the window frames and even the cement sidewalk are similar in tone. The

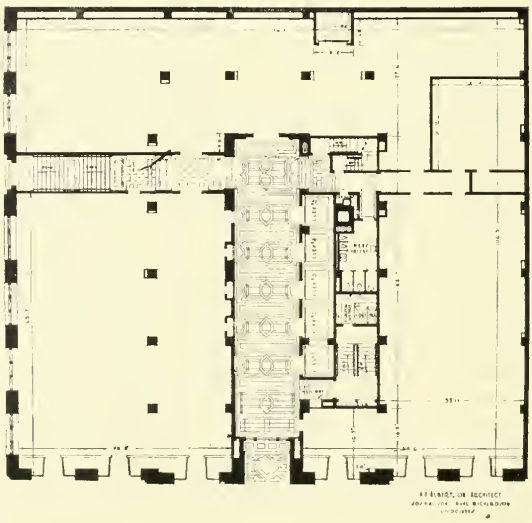
SIDE AND REAR, NORTHERN LIFE TOWER
A. H. Albertson, Wilson & Richardson, Architects

building was largely designed in the model with the drawings keeping pace. Doubtless this is helpful in getting away from flat *facades* designed on flat paper and more readily permits an understanding of the meaning and massing of materials. By these and other means was a sense of solidity, permanency and power sought.

"To accomplish the qualities inherent in the second set of controlling words, representing imagination was, as always, more difficult to achieve. It is to be taken as a matter of course that the monetary investment will first be made to produce a profit on the enterprise; but when, above and beyond this, it is the high purpose and ambition of a business to be of broad social benefit to the community and to record and express this altruistic desire in a building which appeals to the higher appreciation of the community, then it is the function of the architect also to express this high purpose by molding his materials into noble and inspiring form as far as he is able to do so.

"This is altruism or aspiration and to accomplish this certain theories were put into effect. The sense of elevation or aspiration may be gotten by producing a design which gives an uplifting sense to the eye and mind. The design is primarily a composition in vertical piers which soar without interruption from the sidewalk to the flagpole except, of course, the minor hestitations that are introduced towards the top to announce that the completion of the soaring movement is approaching.

"The piers are conceived as cycles of vertical pulsation or of mounting and surmounting surges decreasing upwards in motion and vigor, finally coming to rest against the block of the top story. The first great



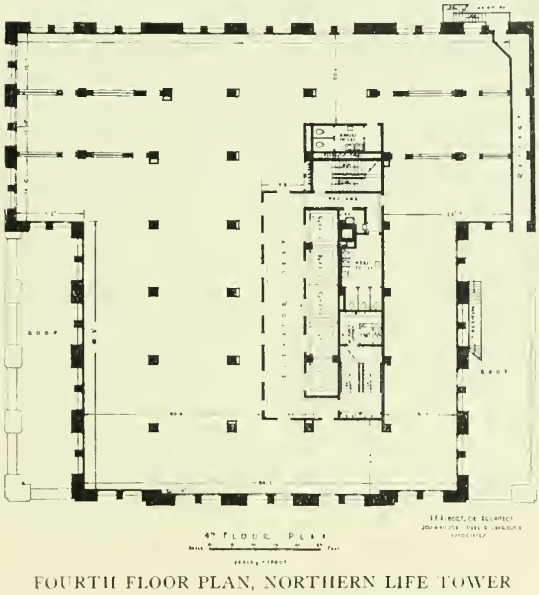
FIRST FLOOR PLAN, NORTHERN LIFE TOWER

primary surge sends the corner piers twenty stories clear where the motion hesitates, slows down and reforms in a two-story pier movement. From there the secondary surge carries them to the 25th floor. Again they hesitate and reform and then mount upward in a short and final surge echoed by two or three minor cessation movements. The movement of the inside piers is the same as the corner piers up to the twentieth floor after which the alternating sweeps and hesitations are of a slightly longer duration bringing them to their completion at a higher point against the block of the top story, thus seeking to produce an interest of harmony between the two varying sets of pier movements. The long sweeps and interruptions may be likened to the back-step in a dance or to the recurrent note in a musical theme.

"To emphasize the dominance and sweep of the piers they were made as deep as possible by omitting the curtain walls, except as the recessed spandrels may be considered as such. The solid metal window frames are set between and directly against the piers and by the omission of the curtain walls and placing the metal frames even with the inside plaster the depth of the piers is thereby much increased beyond the usual window depth. The proportion between the small mullion piers and the large piers is such as to divert the attention from the small piers and enhance the strength and motion of the large piers, and by dividing the windows with a single narrow vertical division the height motion of the small piers is in turn enhanced.

"In order to give the piers full swing no horizontal lines were introduced at the ground floor, second floor or any other

SIDE AND REAR, NORTHERN LIFE TOWER
A. H. Albertson, Wilson & Richardson, Architects



FOURTH FLOOR PLAN, NORTHERN LIFE TOWER

Photo by Albert and Alda Jourdan

LOWER STORY PIERS, NORTHERN LIFE TOWER, SEATTLE, WASHINGTON

A. H. ALBERTSON, WILSON & RICHARDSON, ARCHITECTS

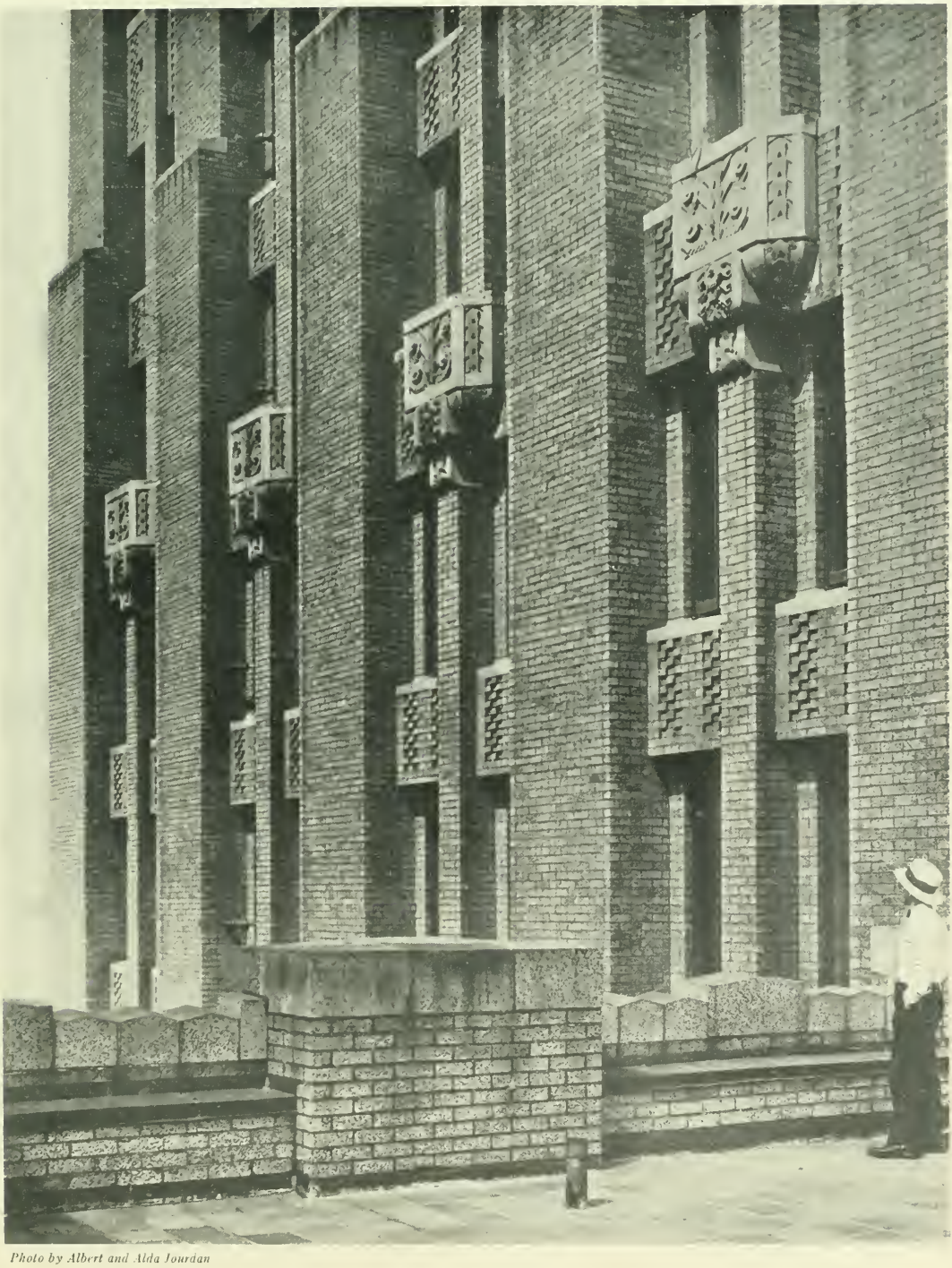
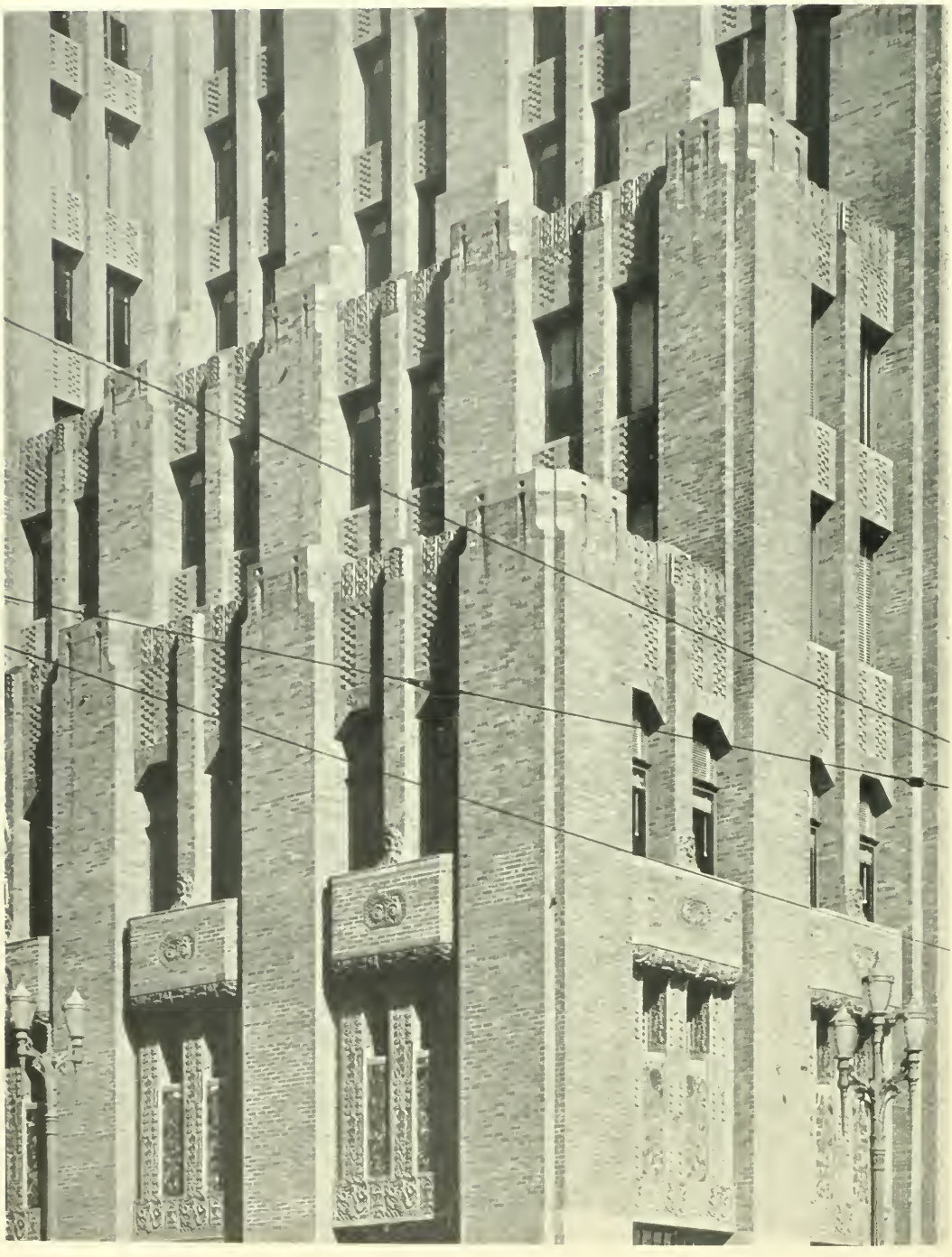


Photo by Albert and Alda Jourdan

PIERS, 17th FLOOR (Showing Flood Lighting Balconies) NORTHERN LIFE TOWER

A. H. ALBERTSON, WILSON & RICHARDSON, ARCHITECTS



PIERS AT STREET INTERSECTION, NORTHERN LIFE TOWER, SEATTLE

A. H. ALBERTSON, WILSON & RICHARDSON, ARCHITECTS

floor; no base, no spandrel band, not even a moulding. There was great temptation during the period of design to introduce the usual horizontal bands at the base of the building, just as in most buildings the ground story is treated as a horizontal unit spreading the load of the building over the ground. To overcome the horizontal line and box effect where the setbacks occur, the piers run up beyond the setback before they are drawn in. Without this solution the undesirable horizontal lines would inevitably predominate. Of course, the setbacks and the entasis of the corners of the building add to strength and solidity. Towards the top it will be noticed the corner piers are drawn in at a level lower than the tops of the piers between. In perspective, this rounds the sharp corners of the building at the setbacks much as the corners of crags are worn off by the elements.

"The treatment of the skyline is unusual in that no ornament whatever is used near the top of the building—no cornice, balustrade, battlement, cheneau or frieze. It is believed that the absence of ornament at the top prevents the eye from arresting at that point and therefore does not interrupt the sense of continuing elevation and uplift.

"Possibly the greatest feeling of upward motion and aspiration comes from the grading of the brickwork from darker at the bottom to lighter at the top. It ranges from an iron ore color at the bottom to a light tan at the top. The terra cotta, sparingly used, was made of approximately the same graded colors as its neighboring brickwork, dark at the bottom and light at the top. The mortar joints also are darker than the brick at the bottom, graded to lighter than the brick at the top. Due to the height of the building, the grading of the brickwork is necessarily very gradual and therefore not conspicuous and while the effect is considerable it may not always be consciously seen though always felt.

"As far as known, this is the first important building attempting to secure benefits from gradation in color. Here again the influence of the environment appears. During changing sky conditions the neighboring bodies of water frequently show sharp gradation in color values, shading from bright tints in the distance down to dark tones in the foreground. It was such a scene looking down on Lake Washington on the edge of the city that first suggested the gradation of color in the Northern Life Tower. Mt. Rainier, the greatest neighboring landmark, is always white at the top with perpetual snow and grades in strength of color downward into the deep evergreen of the forests below. Before arriving at a decision to grade the building, these pronounced natural examples were actively discussed and appraised. In fact, everything in nature shows some variations in color, nothing is flat. The colorist knows that.

"The building stands over the Great Northern Railway tunnel some sixty feet below the foundations. A reinforced concrete mat, about five feet thick, was poured in a continuous operation over the entire Tower area. The structural frame is of steel although reinforced concrete was given serious consideration. All of the materials of reinforced concrete are local products while the heavier structural steel was brought from the East. For that and other reasons, nearly all important buildings in this vicinity, except the highest, are constructed of reinforced concrete.

"The building was built under the Seattle setback law, which was the earliest one in the United States. It is constructed of the same material on four sides and no utilities, such as fire escapes, sacks, roof tank or elevator penthouse were allowed to obtrude."

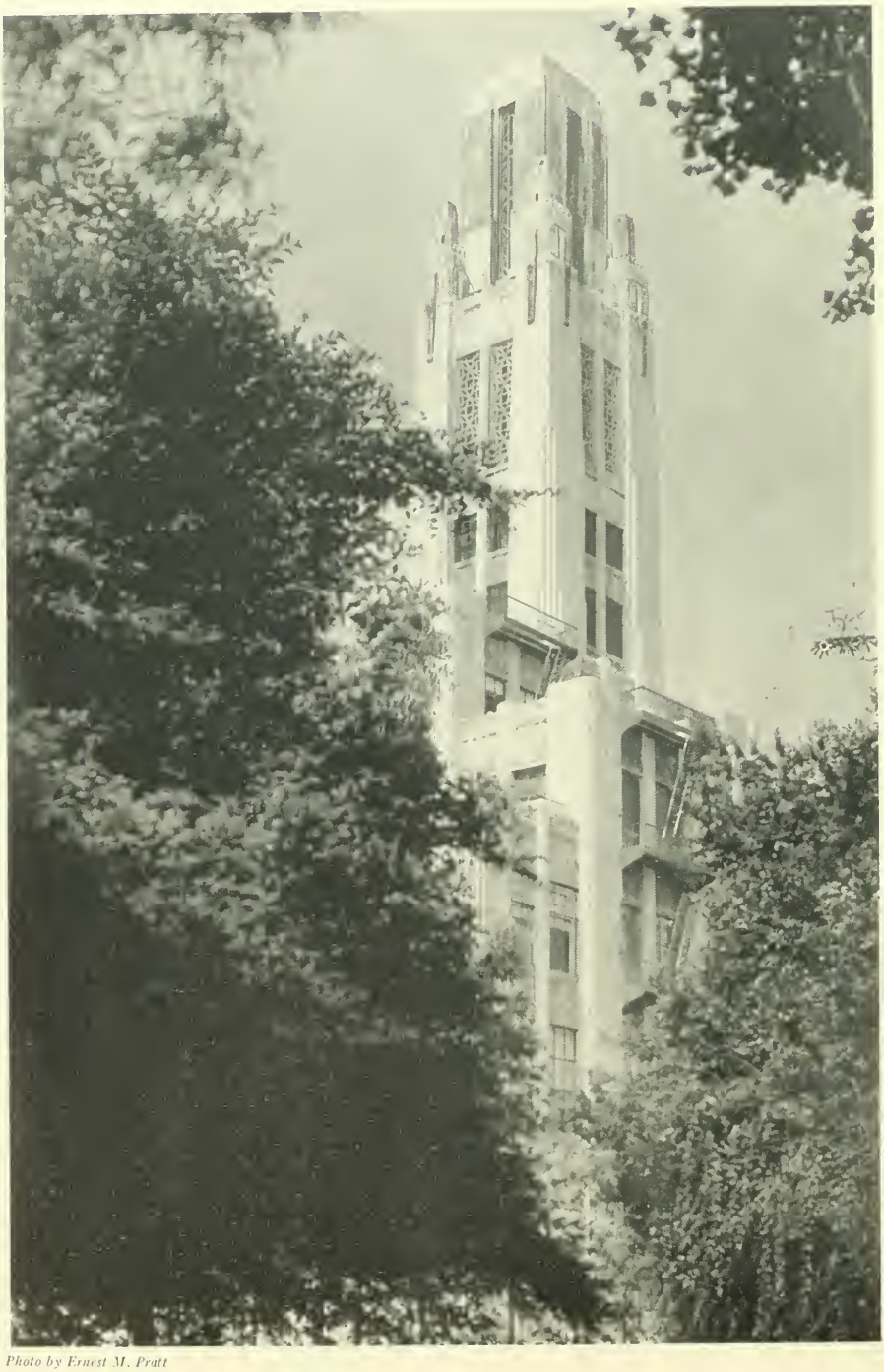


Photo by Ernest M. Pratt

TOWER FROM REAR, BULLOCK'S WILSHIRE STORE, LOS ANGELES

JOHN AND DONALD B. PARKINSON, ARCHITECTS

BULLOCKS' WILSHIRE BOULEVARD STORE~LOS ANGELES

BULLOCK'S Wilshire building, Los Angeles, was designed to house the present activities of the store with a view to future expansion. As the store owns a very large piece of property adjoining the building on the south, and as the foundations and columns are designed for full limit height over the present area of the building, the horizontal and vertical extensions thus made possible will undoubtedly care for the Store's needs for many years to come.

Owing to the strategic location on Wilshire Boulevard it was found desirable to create a tower on the building for the advertising value such a lofty landmark would possess. The Los Angeles Building Ordinance permits of but a 150 foot building height limit. However, in addition to this height, the law permits six feet of roof construction, 35 feet of penthouse construction and 50 feet of sign construction, making a total possible legal height of 241 feet. The penthouse structure can be used only for tanks and machinery, while the sign structure must be for advertising purposes only. As the law further restricts the sign structure to the use of sheet metal and light steel members this feature, to a great extent, determined the design of the entire building. It was thought undesirable to paint the upper 50 feet of the tower in imitation of terra cotta masonry used in the lower stories of the building and as it was most desirable to tie the crowning feature of the tower into the remainder of the building, the metal finish of the so-called sign structure was carried through all of the spandrels, thereby determining to a great extent the actual forms used in the design as well as the color. The green of oxidized copper and the buff colored terra cotta that were selected, form a combination of color that seems to fit in very happily with the California atmosphere.

ENTRANCE GATES TO PARKING SPACE, BULLOCK'S WILSHIRE STORE, LOS ANGELES

A serious effort was made in the design to keep it as structural as possible, also to confine the orna-

BULLOCK'S WILSHIRE STORE, LOS ANGELES
JOHN AND DONALD B. PARKINSON, ARCHITECTS

Photo by Ernest M. Pratt

A STUDY IN MODERN MASS, BULLOCK'S WILSHIRE STORE, LOS ANGELES

JOHN AND DONALD B. PARKINSON, ARCHITECTS

PORTE COCHERE, BULLOCK'S WILSHIRE STORE, LOS ANGELES
John and Donald B. Parkinson, Architects

ENTRANCE TO RIDING SHOP

ment to geometrical forms which seem to fit this type of building much better than foliated or other forms drawn from the accepted architectural styles.

The physical dimensions of the building are Wilshire Boulevard frontage 294′-6″, depth 153′-2″, floor area 198,889 sq. ft., cubical contents 4,723,759 cu. ft.

The entire interior of the building has been carried out in the modern trend by Feil and Paradise, interior decorators, collaborating with J. D. Peters. Modernists say it represents the best that has been done in Los Angeles in recent months. William I. Garren, editor of the Modern Art Department of this magazine paid a hurried visit to the building while attending the recent Architect's Convention. He was most favorably impressed.

"To my mind it is one of the most consistently modern creations in large retail stores in this country," said Mr. Garren. "There has been a handling of materials that reflects a fine sense of their natural

INTERIOR OF PORTE COCHERE, BULLOCK'S WILSHIRE STORE, LOS ANGELES
John and Donald B. Parkinson, Architects

beauty. The use of light in the designing has been very satisfactorily worked out, forming combined architectural and illuminating compositions.

"The furniture and display cases show that the designers and creators of the interior have worked in very close co-operation and have achieved an orderly and beautiful display of merchandise that takes its place with proper relation to the surrounding architecture. Throughout, the beautiful craftsmanship is evident, reflecting in the assembly of the materials an appreciation of modern form and principal of design.

"Retail merchandising offers a fruitful field for originality on the part of the modernist. The success of this particular store from a merchandising standpoint, aside from architecture, is clearly shown in the crowds surging around the building at night and through it during the day and that all California is talking about it."

TYPICAL DISPLAY WINDOWS

ELEVATOR LOBBY, BULLOCK'S WILSHIRE STORE, LOS ANGELES
Feil and Paradise, Interior Designers, Collaborating with J. D. Peters

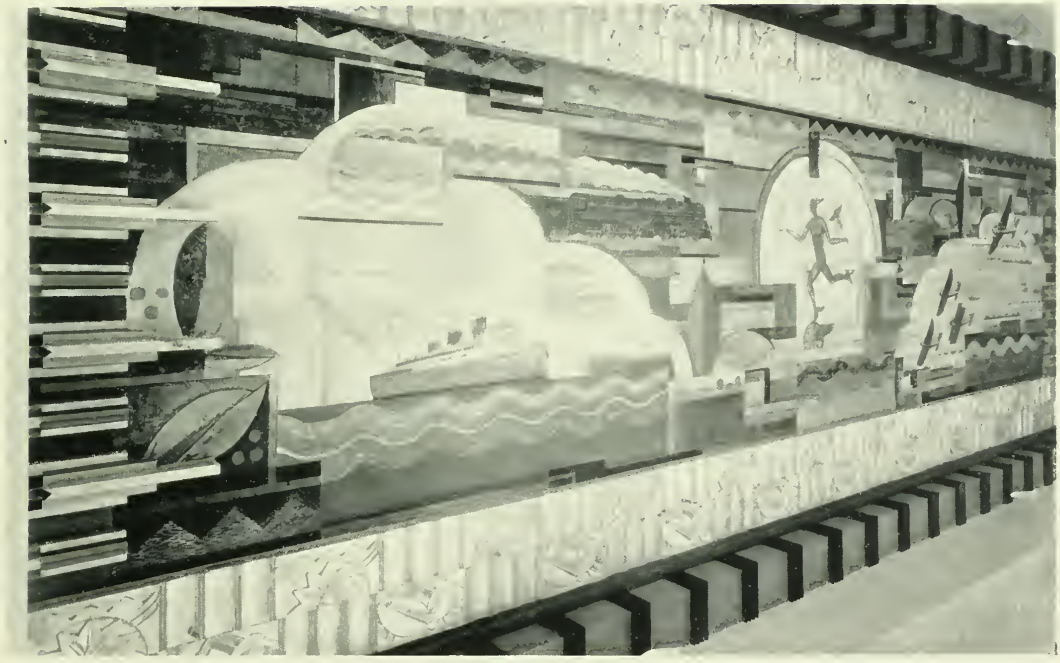
TOILETRIES DEPARTMENT, FIRST FLOOR LOBBY, BULLOCK'S WILSHIRE STORE

NORTHERN CALIFORNIA CHAPTER, A. I. A.

THE regular meeting of the Northern California Chapter, A. I. A., was held at the Clift Hotel on November 26th, at 6:30 p. m., President Frederick H. Meyer presiding. The following members were present: Messrs. Hurd, Evers, McCool, Weihe, Gutterson, Magee, Bruce, Hildebrand, Garren, Johnson, Michelsen, Allen, Meyer, Mitchell, Ashley, Maury, Coxhead, Bakewell, Howard, Jeans, Bertz, Wyckoff, Dean, Clarke, Donovan, McSweeney, Osborn, and Jorgensen. Guests present were: Messrs, Roeth, Schalk and Kent.

This being the occasion of Mr. Allen's retiring from the presidency after two years of valuable service, a token of appreciation was presented to him by Mr. Gutterson in behalf of the Chapter.

Mr. Meyer, in proceeding with the program, desired the Chapter to know of his surprise upon returning from a trip to Europe to find that during his absence he had



CEILING OF PORTE COCHERE, BULLOCK'S WILSHIRE STORE, LOS ANGELES
John and Donald B. Parkinson, Architects

been elevated to the presidency. Continuing his remarks, he gave a glowing account of his travels, what he saw, and the impressions made upon him.

Fred Ashley gave an enlightening talk on cost accounting in an architect's office. Large charts had been prepared and hung so that all could see. They showed exactly how the problem has been solved and how the system is operated in the office of Ashley, Evers & Hayes. Step by step, one job was carried through to show the cost of operation at any particular stage, and final determination of profit at completion.

The talk was followed by a wide range of discussion and questioning by those present. Some explained their own system, whereby they had been able to establish, with reasonable accuracy, the cost of their operations. It was interesting to note the respective variance with Mr. Ashley's plan all however, attaining approximately the same result by different methods.—J. H. M.

SPORTS WEAR DEPARTMENT, BULLOCK'S WILSHIRE STORE, LOS ANGELES

ENTRANCE AT BASE OF TOWER, BULLOCK'S WILSHIRE STORE, LOS ANGELES
JOHN AND DONALD B. PARKINSON, ARCHITECTS

SOME HIGH LIGHTS in MOTION PICTURE THEATER DESIGN

PROBABLY no architect in the United States is better known as an authority in theater design than Thomas W. Lamb of New York. As the architect of the new Fox theater in San Francisco, which is pictured in this issue of this magazine, his views on theater architecture, given herewith, are of added interest. Mr. Lamb has been planning play houses for nearly a quarter of a century and he says when he recalls the days of his early practice and the little thought builders then gave to architectural styles in contrast to the exceptional beauty and efficiency of the modern theater, he becomes impressed with the value of such comparison as a background for a story of the great rise of motion pictures as a popular entertainment and cultural force.

"It is needless to remind you," says Mr. Lamb, "that motion picture projection was not the art then that it is today, and I feel quite sure that not even the men who then were engaged in building up chains of theaters had any idea that motion pictures were destined ultimately to supplant in the public favor all other forms of theater entertainment.

"Many of my architect friends have from time to time referred to me as the disciple of the Adam Period in theater design. It is quite true that for many years I have used the works of James and Robert Adam as the background for my interiors. This I did because I felt that this style of decoration most ably reflected the moods and preferences of the American people.

"Of late years, however, I felt that there was an underlying demand for something more gay, more flashy— a development for which there is much precedent in the history of architecture. For this reason I began to favor in my designs an entirely different style, leaning towards the periods of Louis XVI and the very rich productions in the Italian Baroque style.

"During the course of years in which I have specialized in the planning and building of motion picture theaters, architecture has become so important that the interiors of the theaters now are really educational for all those who are interested in this art, in decorative painting, modeling, etc. It is most essential today for the architect to follow a style to the most minute detail if he wishes to avoid the lash of criticism administered by the students of this wonderful profession.

"There is every reason for the architect to welcome such a condition of affairs. With thousands and thousands of young people intensely interested in the arts, the theater architect is assured of a wide and discriminating public for his productions. The motion picture theater—resort of the multitudes—as much as any public building or institution, should be the background to give these students a reference for their study and development. This very fact places upon the theater architect an obligation to excel in his work and to strive to do his part in the popularization of the art to which he devotes his talents.

"I have visited very many of the newest theaters throughout the country and I note with gratification that each and every one of the various factors involved in the building and operation of motion picture theaters strive to improve upon each other's theaters from time to time. This fact is most strikingly apparent in such features as retiring rooms, smoking rooms and

ENTRANCE AT BASE OF TOWER, BULLOCK'S WILSHIRE STORE, LOS ANGELES
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lounges, very little considered five or six years ago, but which today figure as a most important part of the plan and decoration of the theater itself.

"These public rooms are designed in special periods of architecture, and the furnishings, which years ago were bought on a budget system for the lowest amount possible, now are being selected most carefully to suit the style in which the rooms are designed. This added attention to detail I am sure is one of which the public is most appreciative.

"I have noted with great interest the development of the neighborhood theaters throughout the country. These houses, seating approximately 2,500 people are indeed interesting and form an important feature of the neighborhood life of every community in which they are found.

"One of my architect friends has been very successful in presenting to the public through the medium of the motion picture, a theater of a type called the "Atmospheric Theater," wherein sky effects are used in place of the usual ornate ceilings, and the sidewalls of the auditorium indicate scenes of the interiors of patios and beautifully decorated garden walls.

"The new idea of the elevating orchestra pit has certainly proved a great improvement. Years ago, the patrons of the balcony had only a partial view of the orchestra, and since theater owners expend large sums for the purpose of having fine orchestras and through advertising develop a popular interest in them, the plan to lift the pit up into such position that all the musicians may be seen from all parts of the house is most practical from the standpoint of the showman.

"There have been a great many innovations and special ideas brought about in the lighting system of theaters. However, the idea of the three-color houses on the interior has been, more or less, eliminated—with the exception of such three-colors being used in the main ceiling dome and always on the stage.

"Another very important change has taken place in the decoration of theaters. On account of the new styles embodied, such as Hindu, Chinese, Romanesque, Spanish, etc., it was necessary to introduce colors into the theater.

"The decorative scheme is the most essential part of the house after the architectural background has been set, and the quality of this decoration, though inspired by the architect, is largely left for the decorator to complete.

"In the theater people come to be entertained, but in order that they may be entertained, it is wise to put them in a receptive and friendly frame of mind. This the decorator can do much toward accomplishing.

"We use a great deal of gold because it is the acme of wealth, warmth and coziness. Theopholus Hansen, the great decorator of Vienna, in the latter part of the last century, once made the remark that we cannot use too much gold for it is pleasing and harmonious with any other conceivable color.

"To make our audience receptive and interested, we must cut them off from the rest of the city life and take them into a rich and self-contained auditorium, where their minds are freed from their usual occupations and customary thoughts. In order to do this, it is necessary to present to their eyes a general scheme quite different from their daily environment.

"It does not seem wise to bring the people directly into the full richness and intensity of the decorative scheme, so it is customary to work up to this intensity through various stages. The outer vestibules only give a faint indication of the richness of the interior, and as we pass through lobbies and foyers, the full tone of color and gold is gradually attained, the lighter colors in the vestibules and foyers; the darker and richer colors in the auditorium. It is one of the most quieting and soothing effects that can be striven for in a large interior. We all appreciate the almost narcotic effect of gazing at the waves at sea, or through the leaves of a forest, or at the stars at night. So with the large vaulted and coffered ceilings one is quite overawed by the immensity thereof, by its fineness of detail and by its endless repetition."

TALKING - SINGING - DANCING
"FOX MOVIETONE FOLLIES"
A DRAMA OF YOUTH & BEAUTY
FANCHON MARCO STAGE IDEAS
GRAND CONCERT ORCHESTRA
WALT ROESNER STAGE BAND

Chas. T. Phillips, Mechanical and Electrical Engineer

FOX THEATER, SAN FRANCISCO, CALIFORNIA

THOS. W. LAMB, ARCHITECT; H. A. MINTON, ASSOCIATE

Photo by Waters

GRAND LOBBY, FOX THEATER, SAN FRANCISCO, CALIFORNIA

THOS. W. LAMB, ARCHITECT; H. A. MINTON, ASSOCIATE

GRAND STAIRWAY, FOX THEATER, SAN FRANCISCO

THOS. W. LAMB, ARCHITECT; H. A. MINTON, ASSOCIATE

CORRIDOR, SECOND MEZZANINE, FOX THEATER, SAN FRANCISCO

THOS. W. LAMB, ARCHITECT; H. A. MINTON, ASSOCIATE

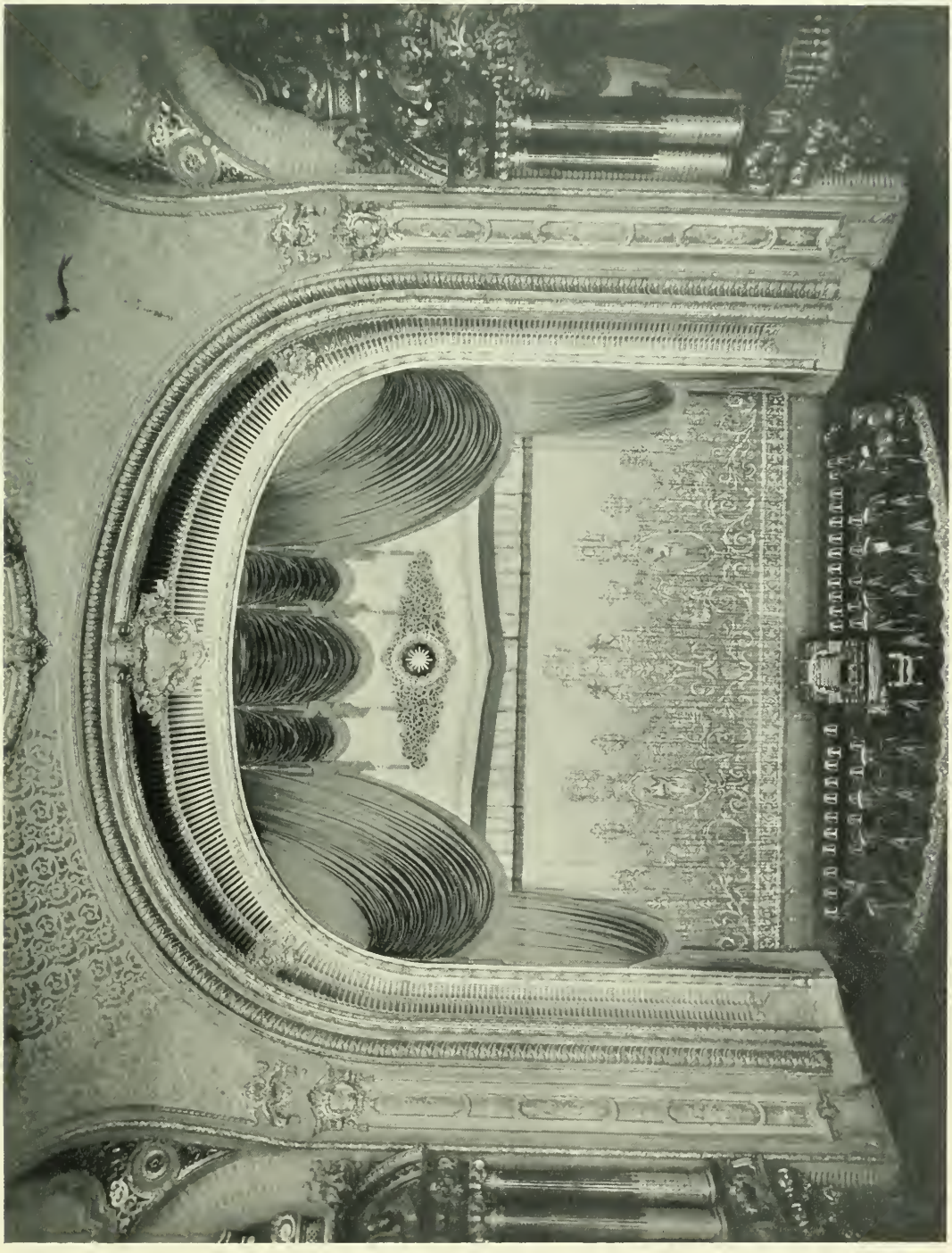
Photo by Waters

ORGAN CONSOLE, MEZZANINE FLOOR, FOX THEATER, SAN FRANCISCO

THOS. W. LAMB, ARCHITECT; H. A. MINTON, ASSOCIATE

ORGAN SCREEN, PROSCENIUM ARCH, FOX THEATER, SAN FRANCISCO

THOS. W. LAMB, ARCHITECT; H. A. MINTON, ASSOCIATE



PROSCENIUM ARCH AND ORCHESTRA PIT, FOX THEATER, SAN FRANCISCO
THOS. W. LAMB, ARCHITECT; H. A. MINTON, ASSOCIATE

WOMEN'S LOUNGE, FOX THEATER, SAN FRANCISCO
Thos. W. Lamb, Architect; H. A. Minton, Associate

WOMEN'S COSMETIC ROOM, FOX THEATER, SAN FRANCISCO
Thos. W. Lamb, Architect; H. A. Minton, Associate

CEILING IN MAIN AUDITORIUM, FOX THEATER, SAN FRANCISCO
Thos. W. Lamb, Architect; H. A. Minton, Associate

MEN'S SMOKING ROOM, FOX THEATER, SAN FRANCISCO
Thos. W. Lamb, Architect; H. A. Minton, Associate

JUST WHAT DOES AN ARCHITECT DO FOR HIS CLIENT?

THE services of a present-day architect are commonly divided into five stages. These are often called the five fundamental functions of an architect and are described as follows in a pamphlet recently issued by the Illinois Society of Architects:

1—"PRELIMINARY STUDIES", which are really the diagnosis of the building problem, proceed first with the careful questioning of the client as to that which he wishes to accomplish. In this study the architect must be sufficiently familiar with human desire to read between spoken words the unexpressed wish.

And to these wishes he must add those things which his own skill and experience dictate as essential to the full, up-to-date solution of the client's problem, such as location of rooms to assure convenience and comfort, straight-line routing of materials in industrial buildings, etc.

In studying these problems the architect must also consider site conditions, present and future land values, relationship to transportation, adjoining property conditions, public utilities, including sewerage, gas, water, heat, electricity, etc.

After the plan scheme is worked out, the architect must then design a building dress that shall be a logical interpretation of the plan—pleasing in aspect, harmonious in color combination, and at a cost appropriate to character of use and neighborhood standards.

The architect next prepares an approximate estimate of cost. This is based on floor areas, volume and similar tentative factors. No accurate estimate can be made until working drawings and specifications determine actual quantities of material and labor.

At this point the architect consults with the client as to whether he wishes to proceed with the original scheme as outlined, or if it should be modified to reduce cost, or to increase efficiency or ornamentation. Should changes be desired, they are worked out in preliminary form and a new approximate estimate prepared.

NOTE: Standard forms of agreement between the architect and his client provide that "Preliminary Studies" shall be modified and remodified by the architect until the client's problems have been solved. During this period the client may, within reason, change his mind as to a given project as many times as he desires, and without involving himself in extra expense. This "Preliminary Study" work usually represents about one-fifth of the architect's complete service.

2—"WORKING DRAWINGS" to scale are now made up. In this second important function of an architect, he prepares drawings which indicate sizes of parts, designation of materials, etc.

NOTE: On this work the architect employs numbers of draftsmen and engineers, and salaries and material expense, as well as chances of error, are so great that marked changes cannot be made except at extra cost to the client. Since "Working Drawings" are perfected in a sort of evolutionary process, to disturb the regular continuity of office program very greatly increases the chances of duplications, omissions, or miscalculations. It is best for the client to make haste slowly on the preliminary design, then leave the "Working Drawings" severely alone. "Working Drawings" represent about three-tenths of an architect's entire service.

3—"SPECIFICATIONS," carefully worded and covering all items of information not set forth in the drawings, is the next task of the architect. Before writing these specifications he must review catalogs of materials, inspect and test samples of materials and devices, interview salesmen and compare market prices, determine what is best suited for the job, and act throughout as the client's purchasing agent.

NOTE: Before a building is completed and furnished ready for use 25 or more contracts are usually let. And as five bids are commonly required on each contract, 125 or more interviews are necessary. Upon receipt of the bids by the architect they must be opened, read and tabulated—a task that often involves several days' work. "Specifications" commonly represent about one-tenth of the total work of the architect.

4—"SCALE AND FULL-SIZED DETAILS" of the work are then prepared by

the architect. These include all the necessary supplementary drawings required to enable the builder to so provide and shape his material that it may be placed in the building with minimum delay and chances for error.

NOTE: In this process of detailing the architect considers the best methods of assembling parts to avoid the evil effects of shrinking and swelling, easy motion of moving parts, water-proof and dust-tight qualities, etc. In these drawings, too, he gives particular attention to details of carved ornament, etc., which assure the beauty of the building. Correct details not only reduce cost of construction, but greatly increase the comfort and convenience of the building. "Details" represent about one-tenth of the total work of the architect.

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Atlanta, Ga.	17	1	Newark, N. J.	18	3
Atlantic City, N. J.	21	0	New Haven, Conn.	5	0
Baltimore, Md.	36	1	New Orleans, La.	21	1
Beaumont, Texas	5	1	New York, N. Y.	2,291	188
Birmingham, Ala.	13	1	Oakland, Calif.	14	1
Boston, Mass.	102	2	Oklahoma City, Okla.	20	2
Chicago, Ill.	384	65	Omaha, Neb.	9	0
Cincinnati, Ohio	24	2	Peoria, Ill.	12	0
Cleveland, Ohio	40	4	Philadelphia, Pa.	98	22
Columbus, Ohio	16	1	Phoenix, Ariz.	5	0
Dallas, Texas	31	1	Pittsburgh, Pa.	52	15
Dayton, Ohio	15	0	Portland, Ore.	25	0
Denver, Colo.	9	0	Providence, R. I.	5	1
Des Moines, Iowa	14	0	Richmond, Va.	20	1
Detroit, Mich.	102	19	Rochester, N. Y.	12	0
Duluth, Minn.	5	0	Sacramento, Calif.	7	0
Ft. Worth, Texas	11	3	St. Louis, Mo.	83	3
Galveston, Texas	5	0	St. Paul, Minn.	7	0
Houston, Texas	24	5	Salt Lake City, Utah	10	0
Indianapolis, Ind.	23	0	San Antonio, Texas	21	3
Jacksonville, Fla.	14	0	San Diego, Calif.	8	0
Jersey City, N. J.	16	0	San Francisco, Calif.	45	8
Johnstown, Pa.	5	0	Seattle, Wash.	41	2
Kalamazoo, Mich.	5	0	Springfield, Ill.	5	0
Kansas City, Mo.	60	2	Stockton, Calif.	6	0
Knoxville, Tenn.	6	0	Syracuse, N. Y.	4	1
Little Rock, Ark.	6	0	Tacoma, Wash.	6	0
Long Beach, Calif.	14	0	Tampa, Fla.	11	0
Los Angeles, Calif	134	1	Toledo, Ohio	6	1
Louisville, Ky.	17	0	Tulsa, Okla.	37	2
Memphis, Tenn.	23	1	Washington, D. C.	20	0
Miami, Fla.	25	1	Wheeling, W. Va.	6	0
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EARTHQUAKE RESISTING BUILDINGS RIGID TYPE

By Henry D Dewell, CE

THERE are two schools of thought with respect to the proper method of furnishing earthquake resistance to buildings. One holds that buildings should be designed to be as rigid as possible; the second argues that more effective resistance results from designing the building to be flexible, either throughout its height or in certain portions only. Thus, we have those who would provide a definite flexibility in the lower portions only of the building columns. This type of construction is sometimes termed "flexible first story" construction.

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been published,—a matter very much to be regretted. During the year 1920 the writer applied the results of his study of this type of construction to the design of the Kobe Branch Office of Osaka Shosen Kaisha (an eight story steel framed building including basement, designed by Setsu Watanabe), and publicly presented a part of this work before a meeting of the Construction Society in the fall of that year. Since then the author has applied his methods to the design of structures in several different steel framed or reinforced concrete types of tall buildings; such as the Osaka Takashimaya Dry Goods Store (an eight story reinforced concrete building, including basement, designed by Shinichiro Okada); the Tokyo Jitsugo-no-Nippon Sha, (a six story reinforced concrete building, including basement, designed by Koichi Sato); the Tokyo Kogyo Bank (an eight story steel framed building, including basement, designed by Setsu Watanabe); and the main office building of Osaska Shosen Co. (a nine story reinforced concrete building, including basement, designed by Setsu Watanabe). Some of those buildings have been completed, but others are still under construction.

"Although the intensity of shock due to the earthquake of April 26, 1922, was only 0.066 g. (about two feet per second per second) in the downtown district, the damage done to the new buildings in the vicinity of Marunouchi was very conspicuous. Particularly the damage done to buildings constructed by American methods was of marked degree. The American method, which revolutionized the Japanese construction and contracting business by simpleness in structure, speed in time of construction, and economy in cost, had weak as well as strong points. American methods affected the construction business greatly in both good and bad ways. The sacrifice of high prices paid for this. The great amount of money spent in the supplementary reinforcing of such buildings can be said to have been well repaid. It is considered our duty to take their strong points and with them supplement our weaknesses so that we may be able to construct *rigid* buildings quickly and economically."

The fundamental principles of design of the rigid type of construction will now be set forth.

I. The building should be designed to be as stiff as is reasonably and economically possible, so that its natural period of vibration will be much smaller than that period of vibration which is believed to be the most probable for that portion of the earthquake wave known to cause the heaviest destruction. The generally accepted values of the period of a destructive earthquake range from a period somewhat in excess of one second to a period of two or three seconds. Therefore, the endeavor should be made to design a building that will have a period of vibration appreciably less than one second.

(a) Under the assumptions of Principle I, all parts of the building will simultaneously have accelerations of the same sign; that is, in the same direction.

II. The total lateral force acting upon the building will be the product of the weight of the building by the ratio of the maximum acceleration of the earthquake to the acceleration of gravity. Thus, if the total weight of the building is 1,000,000 lbs., and the maximum acceleration of the earthquake is taken at three feet per second per second, the total lateral force of the earthquake on the building is 1,000,000 lbs. x3/32.2—94,000 lbs.

III. The total lateral force of the earthquake is to be distributed, in the structural design of the building, to the various vertical structural elements which can offer resistance to such lateral forces, in proportion to their relative capacities to resist such forces. (Such vertical resisting structural elements are walls, interior braced partition walls, and interior bents formed by columns and the floor girders connecting them, together with such bracing as may be given to these structural bents.)

IV. These various vertical resisting elements are then to be designed to resist the loads that are found to come upon them.

V. The foundations are to be designed to resist the additional loads brought upon

them by earthquake resisting structural bents. Special consideration is to be given to the columns and foundations thereof at the corners of the building.

. VI. Symmetry of arrangement of the resisting frames is a desideratum.

Principle III may well be examined in detail although its logic is almost self-evident. Although it is as true for wind forces as for forces due to earthquakes, few buildings have been designed in accordance therewith, even for wind resistance.

The roof and floors of most buildings are quite stiff in a horizontal direction. Floors of reinforced concrete may be regarded as practically rigid against a lateral force. What deflections they may suffer under the application of such lateral force are of an order much higher than the first. Therefore such a floor acted upon by a lateral force may be considered to be in effect a rigid horizontal plate. As such floor moves in a horizontal direction, and assuming that there is no tendency for it to rotate horizontally, every part of that floor moves in the same direction a uniform amount. Therefore, the intersection of that floor with every vertical structural element passing through the floor moves an equal amount in the same direction. Therefore every vertical structural frame or bent resisting the lateral force is deflected the same amount at any one floor level. Of two vertical frames, one very stiff and the second somewhat flexible, it is obvious that a much greater force will be required to deflect the stiff frame than to deflect the flexible frame the same amount. Expressed in another manner, and in accordance with the principles of structural mechanics, the natural distribution of a lateral force to a system of resisting structural elements will be in proportion to the respective rigidities of those structural elements.

The theoretical application of this principle to a building is comparatively simple. It is necessary to evaluate the rigidities of the various structural elements. As has been said before, such vertical resisting elements consist of (1) the walls, together with their structural framing, (2) the interior bents which are formed by a line of columns connected by floor girders, and (3) such lines of interior partition walls as may be advantageously given unusual stiffness. To determine such rigidities, the *relative* deflection of these various types of vertical resisting frames must be found. Observe the use of the word "relative." The determination of the actual deflection of one of these resisting elements is difficult, due to uncertain factors, such as the moduli of elasticity in shear and in flexure of the materials of which walls are composed, and the unknown rigidities of the various connections of the frame. It is reasonable to say, however, that the errors due to these uncertainties are probably a constant for all the frames involved, and that consequently the *ratios* of the computed deflections of the various types of structural bents are approximately correct. Dr. Naito has, in his text, worked out the relative deflections of various types of structural framed bents, including those which are incorporated in solid walls of masonry, and those which are incorporated in masonry walls with openings. The method which he has used to determine these relative deflections is that commonly known as the "Slope Deflection Method." Both deflections due to moment and those due to shear, the latter being very important, are considered.

Given any one building, then, the first step is to compute the total weight of the building. The next problem is the computation of the total lateral force on the building. This total lateral force is distributed to the various floors of the building in proportion to the weight of the structure above the respective floors. The relative deflections of the exterior wall bents, of the interior framed bents, and of the interior braced partitions are then to be found. The total lateral force at any one floor is then distributed to these vertical bents in proportion to their respective rigidities and the design of the members and the connections of such bents made accordingly.

From what has been said it will be obvious that the resultant of the resistance of

the various vertical bents should coincide with the resultant of the lateral force. In other words, the structural resisting elements should be symmetrically arranged about the center of gravity of the weight of the building. If this provision is not fulfilled there will be a tendency of the building to rotate and certain resisting frames will be required to resist shears and moments due to the tendency to rotation in addition to the reactions of the lateral forces. Buildings situated on street corners, and consequently having two solid rear walls, and two street walls, with store fronts in the first story thereof, are particularly difficult to handle on account of the tendency to rotation under lateral shock.

From what has been said it will be apparent that the exterior walls, with their framing, have a very high rigidity as compared to the interior framed bents; and that the walls in the average building must resist the greater portion of the lateral force. In one building quoted as an illustration by Dr. Naito, he has found that a "wall bent" absorbed eight times as much of the lateral force as did a typical interior bent. At the same time, it will also be apparent that the wall bents can very easily be given tremendous strength with but little increase in cost over the ordinary construction. Also, since the interior bents can resist but a small portion of the lateral force, it will usually be found that connections but little stiffer than the standard connections will be sufficient to resist the induced stresses. Thus the rigid type of construction is not only logical, but it lends itself to economical construction.

The conception of the rigid type of building as such has just been outlined, will explain the splendid behaviour of many buildings in the San Francisco and Santa Barbara earthquakes of 1906 and 1925 respectively; buildings in San Francisco like the Palace Hotel and the old Appraisers Building and buildings in Santa Barbara like the Fugazi Bank, the Pacific Southwest Trust & Savings Bank and the warehouse of the Montecito Van and Storage Company.

Several buildings designed by Dr. Naito and others in accordance with these principles withstood the Tokyo earthquake without appreciable damage. Examples of such buildings are the Nippon Kogyo building, the Jitsugyo building, the Kabukiza (Ancient Play theatre), the Yasuda Hozensha (Eiraku building) and the Marunouchi Central Telegraph Building.

This paper may be concluded by pointing out the weaknesses of the flexible type of building. I have said that every building has a natural period of vibration of its own, the amount of which is dependent not only upon its height and lateral dimensions but upon the nature and strength of its framing. Should the earthquake wave have a period of vibration agreeing with that of the natural period of the building resonance must occur; and resonance, if continued but for a few vibrations, will probably destroy the building. It is not necessary for such resonance that there be exact agreement between the two periods of vibration. If such periods approach agreement, the effect of resonance will be realized. The fact must also be remembered that every vibrating structure has not merely a fundamental period of vibration but also harmonics. Therefore, to be sure that there is no danger of resonance between the earthquake wave and the building, assurance must be had that the period of vibration of the earthquake will be different not only from the fundamental period of vibration of the building but also from its second harmonic period at least. The proponents of the flexible type of construction argue that the danger of resonance rests upon the assumption that the earthquake wave is of simple harmonic type, and point out that the seismograms of earthquakes clearly show that the wave as recorded is far from being of simple harmonic type. While it is true that the earthquake wave as we know it is not of simple harmonic type but is one of constantly changing periods and amplitudes, it is also true that there may be portions of the wave which have a number of swings of constant period. In fact, evidence seems to indicate that this phenomenon is realized. I have studied the seismogram of the east-west

component of the great Tokyo earthquake of 1923. I have plotted the variation of the periods of the "principal portion" of this wave with respect to time, and I have found that, while there are recorded a great number of periods of different values, there does occur a succession of periods of constant amount. With these facts in mind, I believe that those who rest the safety of their design upon the assumption that there can be no resonance between the period of the earthquake and that of the structure are not on stable ground. The preceding comments with respect to the flexible type of construction are general and apply with equal force to those buildings which are designed as flexible throughout their height and to those buildings which are rather commonly known as of the "flexible first story type." The designer of the flexible first story building so proportions the first story columns that they may withstand, without excessive overstrain, a predetermined deflection which is assumed to be the maximum that can occur with an earthquake of destructive intensity. On the other hand, the designer of the rigid type of construction plans his building to resist an assumed maximum earthquake acceleration. Uncertainty exists with respect to both the maximum acceleration to be anticipated and the maximum amplitude to be expected in an earthquake of destructive intensity. Such values of earthquake accelerations as have been advanced as representing those of destructive earthquakes have either been computed from computations from seismographic records or by judgment of the movement of the earth as recorded by displaced objects. It is generally recognized that the amplitudes as recorded by seismographs must be used with caution, due to the tendency of every seismograph to exaggerate periods, that approach the natural period of the instrument, To be dependable, a seismographic record must have been made by an instrument which was properly damped. The older Japanese seismograms were made by instruments which were not properly damped and results predicated upon their use must be employed with caution. It is my opinion that the values of acceleration which are generally associated with destructive earthquakes are probably much more accurate than the values of the amplitudes which are assumed to have occurred. For this reason I believe that the building which is designed consistently and logically as a rigid structure to resist a reasonable earthquake acceleration is a much safer structure than the flexible type of building which must run the risk of possible resonance and thus having to withstand amplitudes greater than the designer has assumed. The Carillo Hotel in Santa Barbara, is often mentioned as an excellent example of the "flexible first story" type of building. Such a building may be comparatively safe from earthquakes having a very short period of vibration, but is in danger when subjected to oscillations having periods in excess of one second. Santa Barbara was subjected to a shock of short period type, for the epicenter of the earthquake was near by. What would have happened to the Carillo Hotel had it been in San Francisco in April, 1906, is possibly conjectural, but I believe that it would have collapsed.

It remains to be said that the rigid type of construction is particularly applicable to buildings of relatively low height. When its methods are applied to buildings of great height, its efficiency is decreased. Just how the high office building will behave in a destructive earthquake can only be determined by actual experience. We know that in San Francisco buildings with a height of about eighteen stories and whose frames had been consistently designed for wind pressure of from thirty to fifty pounds per square foot of superficial area, and which were well braced, successfully withstood that shock. For example, the Claus Spreckels Building at the corner of Third and Market Streets, 18 stories in height, was designed for a wind pressure of 50 lbs. per square foot. It survived the earthquake with apparently no damage to its structural frame and with but minor damage to its walls. What would have happened to a building thirty-two stories in height is problematical.

THE VALUE of VENTILATION in ACOUSTICS

By E. L. Beard,
Acoustical Engineer

THE controlling and harmonizing of sound waves, of the acoustical values of various applications of sound are at this time being given foremost attention by architects and designers. With so many varied applications, acoustics applied, becomes a practical service.

There are many factors that make for correct acoustics of auditoriums. Some of these are here enumerated:

One of the first principles of sound movement resolves itself around the air movement. To illustrate this, let us refer to the simple experiment of a vacuum container equipped with an ordinary door bell. On pushing the button the bell tapper can be seen to vibrate but no sound is heard. Then air is admitted to the container, and the bell is heard. This shows us conclusively that air is necessary for sound. Air being the prime factor in sound, we have four facts in relation thereto: the direction of the air movement; the velocity; the quality or purity of the air; and the distribution of the air over a given area.

The direction of the air movement influences the direction of the sound waves. For instance, standing out of doors with your back to the wind the voice will travel further and clearer, and with greater velocity than facing against the wind. Also should one person stand on one side of the street and another on the other side, the wind blowing up or down the street, the sound will be preceptibly cut off or retarded. This shows us the air movement should be in the general direction in which we wish the sound to travel—namely, from the stage or front of the house to the rear, or towards the audience.

Should the air movement in an auditorium be across or opposite to the desired direction of the sound movement distortion and lack of amplification will result.

The second point is the velocity of the air movement. The speed of the wind will indicate the velocity of the sound in that the greater the air velocity, the further the sound will travel, or the faster the time.

In auditoriums the amplification, or time, may be increased by increasing the air movement, or speeding up the exhaust fans.

The third point is the quality of the air, which determines the tone value. For instance, in the mountains the voice is very clear, in the city not so clear and in a poorly ventilated room the tones are muffled or flat. So it is apparent that an adequate supply of pure air is essential for good tonal qualities.

The fourth point is the distribution of the air. As the air movement determines the sound movement, it is necessary that all the air in the room be kept in constant motion in a given general direction, so as to avoid dead air spots, which cause distortion of tone and unequal sound distribution.

Improper ventilation gives us lack of amplification, or slow time, distortion of tone, inaudibility, unequal distribution of sound, and poor tonal values.

Proper ventilation gives us correct time, ample amplification, correct tones, audibility, and equal distribution of sound in all parts of the auditorium.

Portfolio of Sketches

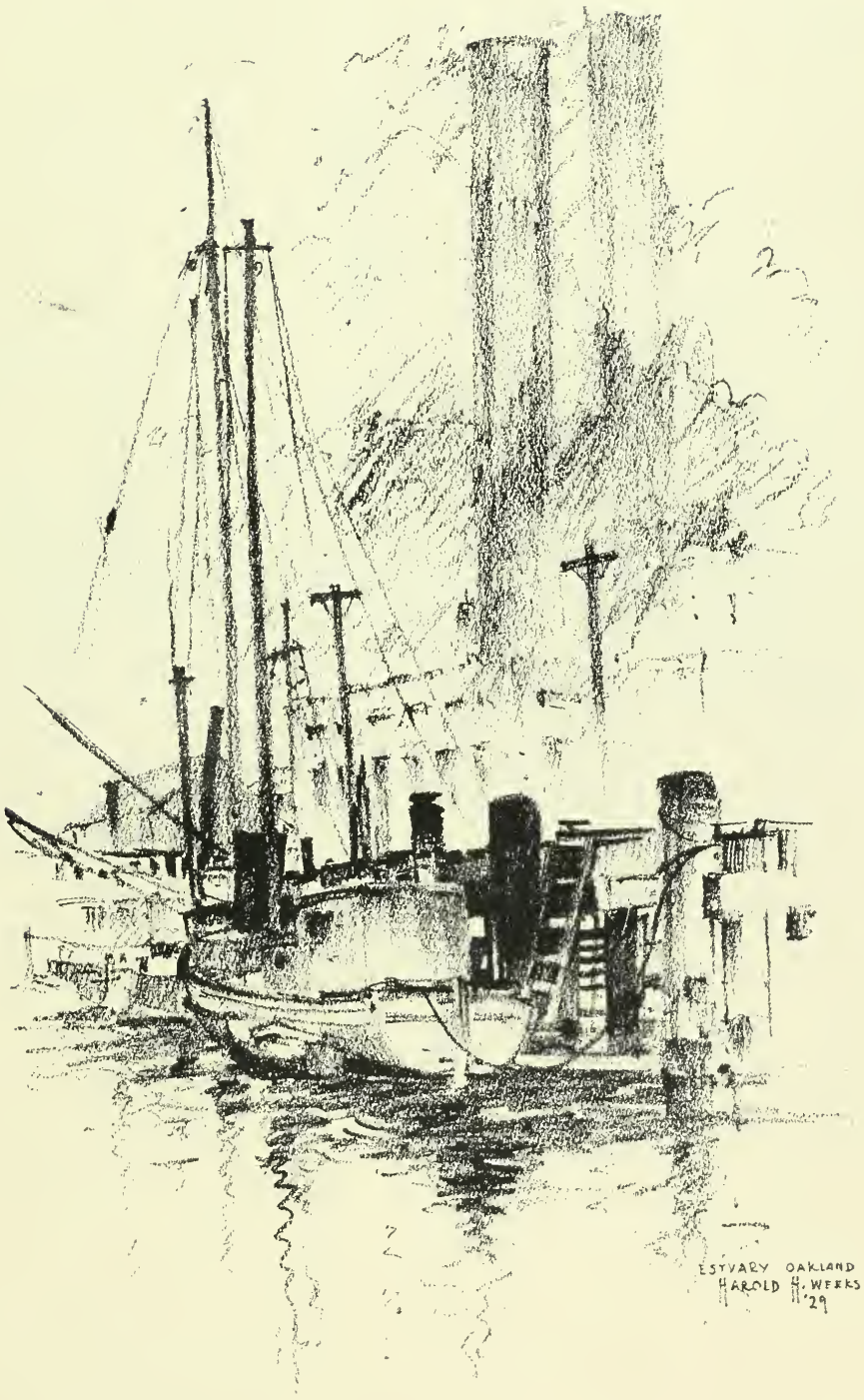
by

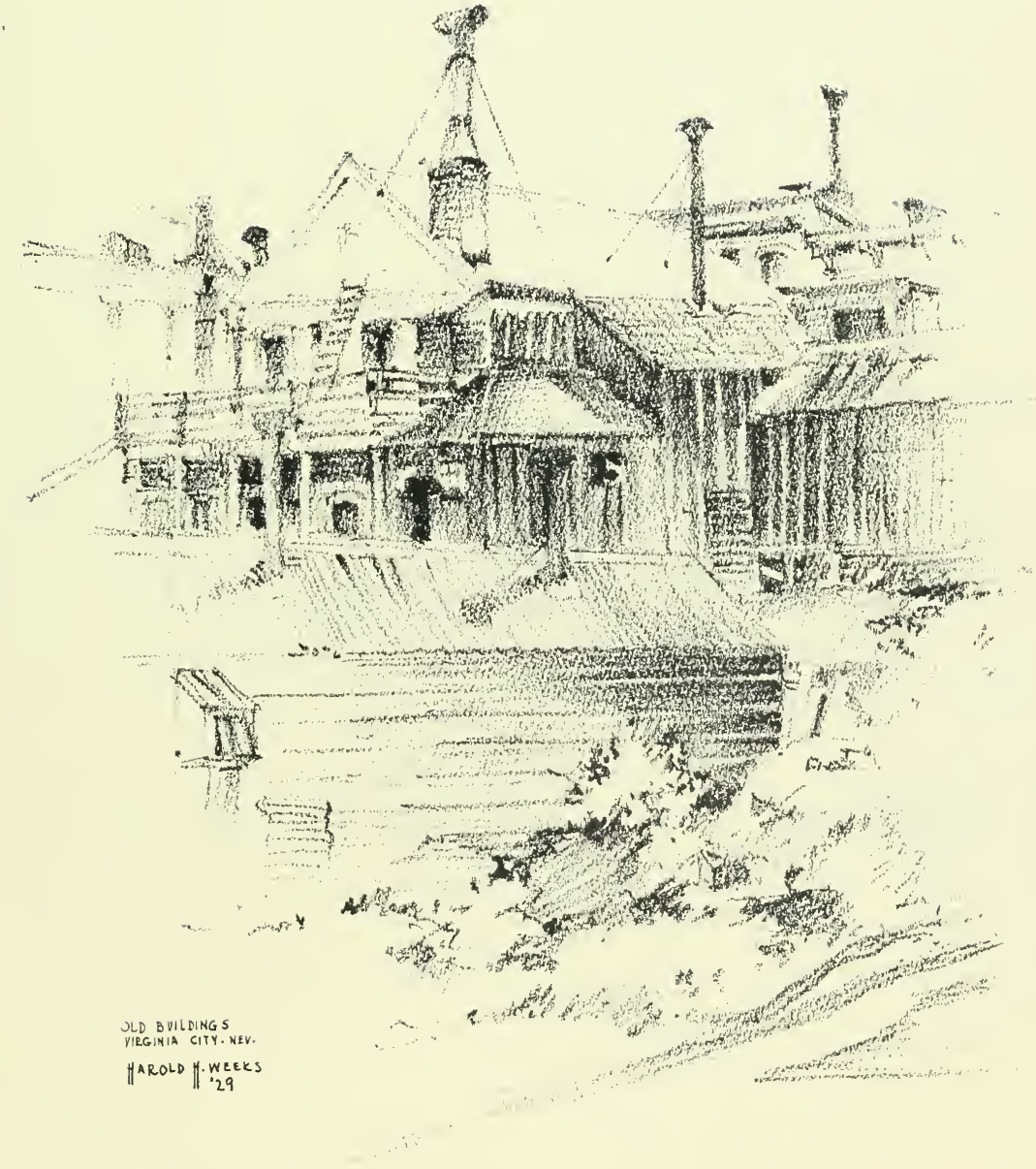
HAROLD H. WEEKS

HAROLD E. WEEMS '29
LA CRUZ
CELAYA.

THE CATHEDRAL
QUERETARO

PORTAL PROGRESO
CELAYA


ESTUARY OAKLAND
HAROLD H. WEEKS
'29


OLD BUILDINGS
VIRGINIA CITY · NEV.
HAROLD H. WEEKS
'29

HAROLD H. WEEKS '29.

COMSTOCK LODGING HOUSE
VIRGINIA CITY NEVADA

OFFICE BUILDING OF CARL JULES WEYL, HOLLYWOOD, CALIFORNIA

CARL JULES WEYL, ARCHITECT

AN ARCHITECT'S STUDIO

By
Marc N Goodnow

THE factor of efficiency in the architectural profession applies not only to the skill and ability of the architect himself, but to the layout and conduct of his office. The most expert of designers may meet failure in his efforts when confusion or disorder prevail in various rooms, when there is a lack of convenient circulation as between rooms, or when the necessary privacy for each department of the business is absent.

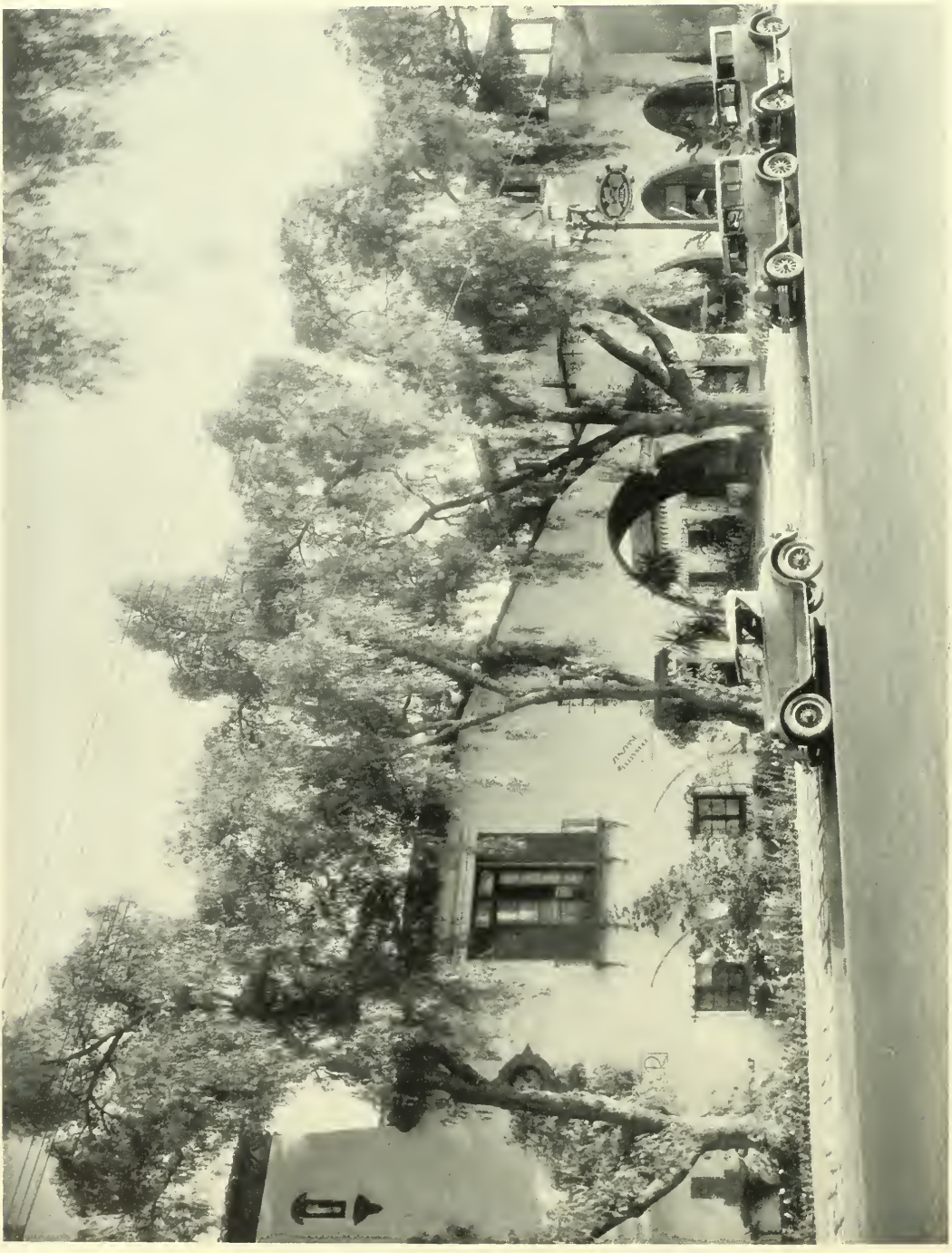
Whether the architect's business is large or small, good planning of room arrangement and equipment is sure to result in increased efficiency. Indeed, this factor may readily bring in more business—and better business. An architect recently told the writer that his investment in larger and more tastefully decorated quarters had been returned to him several times over by reason of its sales effect on his clients.

"In the old quarters it was hard to maintain system and order, much less create an atmosphere that made the client feel that he was getting real ability or value for his money. Also," he continued, "I had a great deal of free sketching to do in order to get business. The office looked as if I needed the money and that led people to expect an expensive amount of accommodation.

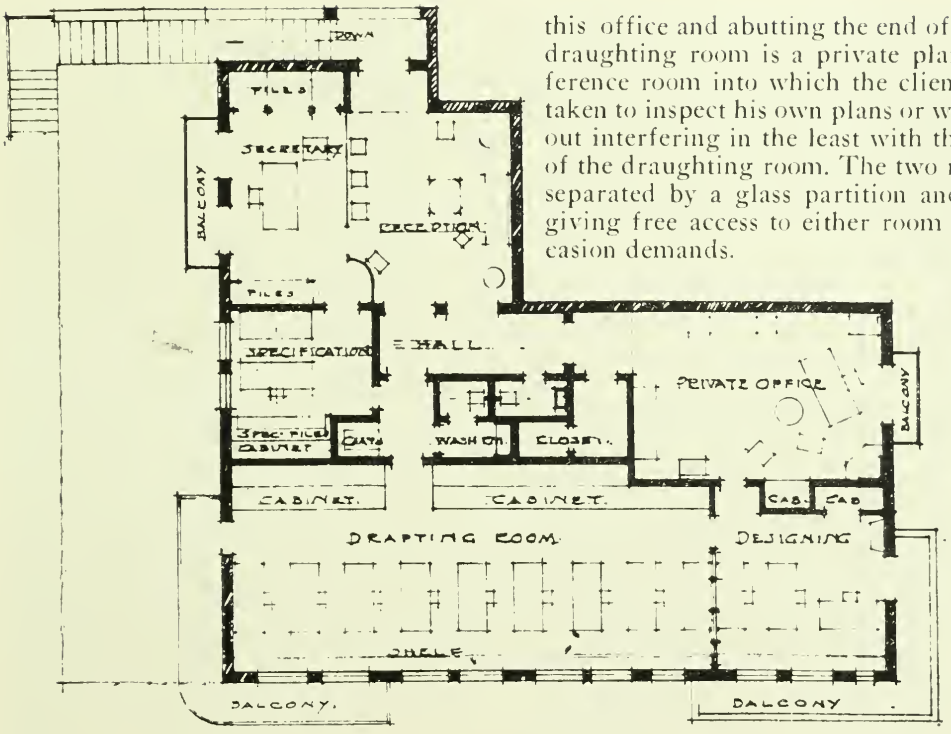
"But in these new quarters my customers seem to be impressed with the surroundings—and they expect to pay for what they get. They don't haggle. They also get the idea that because I have done an attractive office for myself, I can do the same for them. And they do not ask me to prepare free plans or sketches for them, as in the old days. In fact, I have gained a better class of clients since the change."

ENTRANCE TO OFFICE OF CARL JULES WEYL
Carl Jules Weyl, Architect

As can be seen in the photographs accompanying this article, Carl Jules Weyl had this same thought in mind when he planned his architectural offices on the second floor of the Hollywood Chamber of Commerce building, which he had designed. Having worked in a number of the larger architectural offices of the country, he had gathered



BUILDING CONTAINING OFFICES OF CARL JULES WEYL, HOLLYWOOD
CARL JULES WEYL, ARCHITECT



FLOOR PLAN

OFFICE OF CARL JULES WEYL, HOLLYWOOD
Carl Jules Weyl, Architect

many ideas as to layout and room arrangement which he adapted to his own purpose, with results that have more than paid for the financial outlay.

The purpose here was twofold: First, to offer the client an attractive atmosphere that would raise the architect in his estimation, and at the same time provide both comfort and convenience in conference or inspection of his work. Second, to carry on the office routine under the most favorable conditions, undisturbed by any distracting influences. Both ends have been admirably served by an arrangement of rooms that, while completely separating the business from the production department, also permits their intimate contact, when that is desirable.

Leading from the left of the reception room is a short hall connecting that room with Mr. Weyl's private office. Adjoining this office and abutting the end of the main draughting room is a private plan or conference room into which the client may be taken to inspect his own plans or work without interfering in the least with the routine of the draughting room. The two rooms are separated by a glass partition and a door, giving free access to either room when occasion demands.

The draughting room, which is 16 feet wide, has been placed to receive its lighting from the north. Individual tables stand at right angles to the windows, with a passage way between the end of the table and a line of cupboards along the inside wall. Covers are provided for the tables, so that after the day's work all tools are placed in their proper drawers or on hooks and the room is tidy for the next day.

The planning of the inside wall equipment of the draughting room offers an efficient method of storage for all kinds of material, as well as a convenient rest for plans, books and other reference items or tools during the day. The lower compartment, with doors, under the waist-high shelf, is composed of a series of shallow sliding drawers in which plans, sketches and other flat pieces are stored. Above the main shelf is a series of closed-in cupboards, shelf-

PATIO, OFFICE OF CARL JULES WEYL, HOLLYWOOD

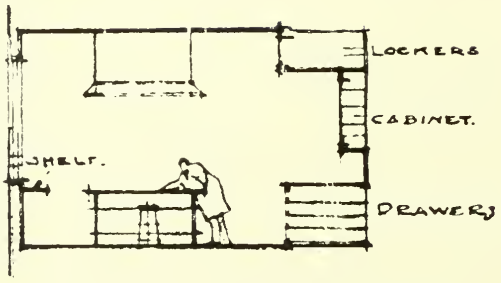
CARL JULES WEYL, ARCHITECT

RECEPTION HALL, OFFICE OF CARL JULES WEYL, HOLLYWOOD
Carl Jules Weyl, Architect

PRIVATE OFFICE OF CARL JULES WEYL, HOLLYWOOD
Carl Jules Weyl, Architect

lined, for the reception of books, magazines and other articles in current daily use. Along the ceiling is a row of deep cupboards containing books, magazines, plans and other materials not in current use but close at hand for ready reference. The arrangement makes it possible to contain all the necessary paraphernalia for the conduct of a draughting room almost at arm's reach, and yet to protect it from dust and the disorder that would prevail if it were not shut away by doors. As many as eight draughtsmen work in this room without confusion or interference with each other.

To the right of the reception room is provided a small room with table, chair and cupboards for blueprints and specifications, which serves the contractor or subcontractor and the draughtsmen in charge of the job in much the same way as the private conference room serves the architect and his client. This room is entered from the outer office through a half-door with shelf or table top. It is also reached through a door from the draughting room. These quarters insure the seclusion that make for rapid, concentrated handling of the day's work.



SECTION THE DRAFTING RM

The reception room and private office are done in a definite Mediterranean note, with gothic arches; wide plank floors; wrought iron grilles, fences and gates; heavy carved chests and leather-seated

DRAFTING ROOM, OFFICE OF CARL JULES WEYL, HOLLYWOOD
Carl Jules Weyl, Architect

chairs. Though the quarters may be said to be only moderate in size, their decoration and furnishing radiate an atmosphere that is both business-like and artistic, and, because of the elements of planning and separation, they contribute in no small measure to the efficiency of the principal as well as to that of his entire staff.

THE OFFICE LAYOUT

The office layout of Carl Jules Weyl, architect, of Los Angeles, is arranged in such a manner that there is direct communication from the private office of the architect to the designing room and to the drafting room. There is also convenient access from the drafting room to the specifications and contractor's room and to the desk of the secretary.

The designing and drafting rooms are so located that the northern exposure gives them the most desirable light. These rooms are 16'-0" wide, allowing only one drafting table of 3'-6" wide and 6'-0" long. A trough extends the entire length of the drafting room at table height. This is used for drafting tools and accessories, thus enabling the draftsmen to use their tables only for their drawings and as a result, keeping the drawings clean. Between this shelf and the table there is a distance of 2'-0" which allows the men to walk around their table.

Between the end of the table and the cabinets, which run the entire length of the drafting room, a passage of 4'-0" allows one to pull out the drawers, and have ample space to pass by. These cabinets mentioned above comprise the following: One 4'-0" deep and 3'-6" high, forming a counter and used as a reference table; above this, another cabinet 14" deep against the wall and used for such drafting room references as catalogues, samples, and books; then, above this, next to the ceiling is a continuous locker space used for filing finished work.

THE DESIGN

In making this office of Spanish design, it was the intention of the architect to create the same impression on those who enter it that one receives when entering the Patio court and the stairway leading to the office. The furniture is similar in design to that which one might find in the library of a private home. Drawings in the private office are kept in high chests, thus keeping in character with the rest of the room. The stationery and files are kept in cupboards, hidden behind large doors of solid wood fitted into the wall.

WEST AHEAD OF EAST IN PARKING FACILITIES

ELIMINATION of skyscrapers, parking bans and trick traffic regulations are being bandied about on every side as solutions of the congestion wrought by the automobile. Eliminate the skyscraper, and we take a step back to the decentralization existing before the telephone, the railroad and the steamship. Put a ban on parking, and the use of motor cars is discouraged in the district with the result that people will, when they can, stop elsewhere. Trick traffic regulations, such as those prevailing in the New York theatrical district, succeed in reducing congestion by reducing the number of automobiles that use the streets.

We might as well accept the fact that the automobile is here to stay and that space must be provided for it, especially since in typical cities motor cars carry from twenty-five to seventy-five per cent of the people entering the central area. We cannot step back. We must step forward, says a writer in the *American Architect.*

The solution that is coming to be regarded as at least among the most logical, outside of the streets themselves, is to design buildings that have garage space in them. Here, the West is far ahead of the East, possibly because there a larger portion of the working population use the motor car for transportation to work. For instance, the majority of class A office buildings constructed in Los Angeles within the past two years have some sort of internal storage facilities for automobiles. The thirty story Russ Building in San Francisco has two floors devoted to the housing of its tenants' motor cars. The 22 story Medico Dental building (450 Sutter street, San Francisco) has ten floors set aside for automobile parking. The Pure Oil Building in Chicago takes care of 600 cars by using the court for garage purposes to a height of twenty stories. [Please turn to Page 101]

KNOWING and TREATING TREE DISEASES

By: G H Collingwood in American Forests

LESS spectacular than forest fires, less spectacular even than insect pests, is the battle being waged against tree diseases that spread often unnoticed through the forest. Their menace is appreciated by few, yet tree diseases are drawing increasingly upon America's timber resources.

Disease may be defined as an unbalancing of normal functions. This may be the result of insect attacks or by climatic, biological or soil conditions, but this article will deal with tree diseases as caused by fungi and mistletoe. The profession of forest pathology is comparable to the profession of medicine, but, in spite of advances that have been made, is still in its infancy. It is comparable with the medical profession a century ago, when crude practices of disease control, rather than prophylactic measures based on exact knowledge, maintained. "Forest sanitation" and "forest hygiene" are phrases we are going to hear more and more as wiser forest policies are enforced.

As in the case of insects, many of our most disastrous and menacing tree diseases have been unwittingly imported from foreign lands. The United States depends largely upon federal and state quarantine measures to prevent the importation and spread of foreign tree diseases, but these have not been wholly successful. White pine blister rust, larch canker and chestnut blight are three outstanding examples, and the Dutch elm disease, although it has not been recognized in this country, presents a serious problem. It has caused the death of thousands of elms in Holland, Germany and England and is a constant threat to the elms of this country. About 7,500 fungous diseases destructive to trees and plants on other continents have not yet reached the United States, but many of them will arrive unless careful barriers are maintained.

Newly introduced diseases can sometimes be eradicated by destroying all infected trees and by maintaining an absolute embargo on trees from the danger zones. Shipment of timber products must often be restricted also. Chestnut blight and Dutch elm disease are examples of fungi that can be transported in lumber products for some time after manufacture.

Chestnut blight was imported on young trees from Asia, sometime prior to 1904. It got beyond control early in the battle and has spread over practically the entire range of our American chestnut. Probably, within another generation the entire native species will be wiped out. While prompt detection of the disease and ruthless destruction of all infected specimens might have halted its march, no control suitable for checking its spread was devised after it got under way.

Inadequate safeguards were responsible for the importation and spread of white pine blister rust. Its introduction into North America might have been prevented had the Federal Plant Quarantine Act been in effect twenty years ago. The disease is believed to have originated in northern Asia and to have been brought into Europe by way of Russia, on young trees planted in botanical gardens. From Russia it has been tentatively traced to botancial gardens in European cities, such as flourished from 1750 to 1850, sponsored by wealthy noblemen, physicians and rulers. Since little was known of fungi and their distribution, foreign plants were freely introduced by exchanges and conditions were ideal for spreading plant diseases.

As early as 1898 blister rust was recognized at an important nursery center in Belgium that traded into Germany, France and other countries, including the United States.

It was first discovered in this country in 1906 on white pines imported by a Massachusetts firm. A total of about 226 lots, all containing infected stock, were definitely traced to one German firm. Dr. Karl von Tubeuf, a professor at the University of Munich, warned that diseased stock was being distributed freely throughout Germany by this nursery and tried unsuccessfully to have the plant traffic controlled.

White pine blister rust is a fungous disease that requires an intermediate host for its development and spread. Herein lies the secret of its control. The disease cannot spread from one pine to another, but must have the leaves of currant or gooseberry bushes as stepping stones. From infected pines the spores spread to currant and gooseberry bushes. When these intermediate hosts are destroyed its ravages are stemmed. On pines the disease evidences itself in canker spots along the bark—swollen patches with a greenish yellow discoloration about the edges. After about three years orange-colored blisters filled with millions of spores break through the canker. The spores are scattered on the wind for hundreds of yards and out of the many turned loose, a few fall upon the leaves of currants or gooseberries. The broken bark around the blister dies, but the fungus grows on in the live bark, producing new blisters each spring. "Spring spores" form orange-yellow spots on the under surfaces of the leaves of currants and gooseberries. Later these same leaves develop hair-like growths called "fall spores" which are carried back to the pines.

Blister rust at the present time is found in the white pine forests of the New England states, in New York, New Jersey, Pennsylvania, Michigan, Wisconsin, Minnesota, as well as in the western white pine forests of Idaho, Washington and Oregon. It is also found in British Columbia, Ontario, Quebec, Nova Scotia and Prince Edward Island, Canada. In these forests it attacks and kills white pines of all sizes. In a badly infected region it is often known by the rust colored "flags" of diseased and dying branches. The greatest menace of the white pine blister rust is to the young growth, but too many large trees have also been killed for one to doubt its potency. Since the white pines represent timber resources of at least $550,000,000 and since it is highly desirable for artificial planting, the importance of controlling the rust is apparent.

White pine stands can be protected by uprooting all currant and gooseberry bushes within infecting distance—nine hundred feet under average conditions. The bushes can be uprooted either by hand or with a grub hoe, but the work of eradication must be systematic and thorough. Crews of two or more men are effective, but one or two careful workings of an area are essential. Recent studies have shown dip oil and fuel oil to be effective in killing off currant and gooseberry bushes. This is applied by men carrying knapsack spray pumps, similar to fire extinguishers.

During the past eleven years nearly seven million acres of land in New England and New York have been made safe for white pine by cleaning off the currant and gooseberry bushes at an average cost of twenty-one cents an acre.

Another unwanted immigrant is the European larch canker, a disease recently discovered in Massachusetts and Rhode Island. It appearance has greatly agitated forest pathologists, because while it mutilates and kills American and European larches, like other imported pests, it behaves differently in this country. It has gone beyond the larches and attacks Douglas fir and yellow pine, two of the most important timber trees of this country. Should the disease escape control it could spread through the larch forests to the great forest regions of the northwest, for the larches form a bridge for it across northern United States and Canada to the Pacific Coast.

Control consists of cutting down and burning infected trees as fast as these are found and a rigid quarantine prohibiting the movement of seedlings and timber of affected species from the two states. Scientists from the United States Department of Agriculture have been assigned to study the disease and neighboring states are being scoured to determine whether there are any

additional infections outside the known danger zone.

Larch canker is similar to chestnut blight and is equipped to spread rapidly. It attacks through the bark, forming a canker which quickly girdles and kills small trees. Large ones are killed more slowly. The ugly growths on the trunks spoil the wood for timber and so weaken the trees that they are subject to insect attacks or snap during a storm or under the weight of snow. The disease spreads from one tree to the next and the spores may be carried by the wind, insects, birds or small animals. Resin flowing from the point of the wound sometimes covers the trunk for a distance of ten or fifteen feet.

A comparatively new and little known disease is Woodgate rust, so called because it was first discovered on Scotch pines at Woodgate, New York. This disease attacks only hard pines, producing knob-shaped swellings, or galls, on the stems and branches. It stunts and malforms the trees, eventually killing them. This fungus has no alternate host but spreads directly from tree to tree which makes control difficult and expensive. Thus far it has been confined to New York State, but several of the Southern pines are particularly susceptible to it. This fact coupled with its power to spread from tree to tree causes some forest pathologists to refer to it as our most menacing pine disease.

Damping-off, a disease of the nursery, causes heavy losses in thickly sown beds of conifer seedlings. It is caused by a variety of fungi whose classification is still incomplete, and is often confused with damage caused by wind and heat. In the latter case, however, the shriveled base of the stem is light colored and above the ground line while in damping off the stem is dark in appearance and shows an extension of decay at the roots.

Damping-off can be partially controlled by sowing seed less densely, by avoiding heavy or excessively wet soil, and by good ventilation in the seed bed. Fall sowing or very early spring sowing in northern nurseries is also recommended rather than late spring sowing. Some growers have found that sub-soil from the forest, used as a surfacing for conifer beds, acts as a preventative. However, there are so many different fungi that cause the disease at different times and places that it is impossible to recommend any one treatment as generally effective. The large-scale grower will find it profitable to experiment with different treatments on small seed plots to determine for himself the best method of control and the proper concentration of any chemical disinfectant that may have been employed successfully elsewhere.

Tests conducted over a period of years have shown solutions of sulfuric acid to be effective, but because of its corrosive tendencies its use has sometimes had disastrous results. Aluminum sulfate at the rate of one-half ounce to a square foot has been recommended as a non-corrosive substitute. Good results have followed when it is applied to the bed at the time of seed sowing. It can be dissolved in water and sprinkled onto the soil or the powder can be scattered and washed in with water. The cost is reasonable and like sulfuric acid it helps keep down weeds. When neither acid or sulfate seem effective, formaldehyde at the rate of three-eighths of a fluid ounce to a square foot will sometimes solve the problem. This should be dissolved in water and applied ten days before sowing. Other mixtures that have been used successfully include compounds of mercury and Bordeaux mixture.

From the point of view of the forest pathologist, mistletoe departs from its romantic place as a Christmas decoration, and is recognized in some of the western areas as a forest enemy comparable only to fire. The mistletoes belong to the group of higher plants having roots, stems, green foliage and flowers, but as a result of their parasitic life they have scarcely any root system, depending for food and moisture upon their host, which they gradually kill. They grow upon broad leafed trees as well as pines and are common over all the southern forests, from east to west. They are particularly destructive among the pines. "Witches' brooms" in pines are often caused by mistletoe.

Fortunately the death of the host tree also causes the death of the parasitic mistletoe.

This indicates that cutting of mistletoe infected trees may prove a practicable method of control. Trees along highways and on private properties may be helped by pruning the infected limbs.

Leaf and twig blights caused by different fungi result in injury to several broad leaved trees. Infection is usually indicated by a blotch on the leaf running along the principal veins. The sycamore shows the disease by dead and dying leaves and twig tips early in the spring, when the tree buds. A badly infected tree looks as if it had been scorched. In wet weather the undersides of the leaves will be found covered with cream colored spots about the size of a pinhead. These contain spores. When the leaves of the tree fall, additional spores develop, maturing in the spring. It is not known which set of spores cause the infection of new leaves. Usually the tree is able to put out an entire new crop of leaves late in the summer, but repeated defoliations stunt it and sometimes kill it.

With a little care, infected trees can be cured and saved. All the leaves should be raked up from beneath the tree and all dead or cankered twigs should be pruned. Leaves and twigs alike should be burned. The control efforts will be more effective if the tree is sprayed with Bordeaux mixture in the spring before the buds burst and again about a week later. A rainy season will encourage the development of spores, so a third and fourth application should be made at intervals of two weeks. The foliage should be completely drenched. This treatment will apply to many other leaf diseases on broad leafed trees.

The diseases considered in this article have been those of leaves and bark, but no less important are those that penetrate the trunk and those that attack the roots. Shelf-like fruiting bodies on tree trunks, and "toad stools" at the base of trees are often evidence of wood destroying mycelia at work beneath the bark. They are the cause of what the lumberman often calls "heart rot" and "red rot" in sawlogs. Once they attack the trees little can be done to control them, so the best way is to keep the trees in the woods growing as naturally and healthily as possible. Often fire is the forerunner of these fungus attacks. Had the tree been able to stand unharmed there would have been no opening in the bark for the fungus spore to enter. Moreover, the burning of the soil cover may reduce the capacity of the tree to resist attacks of these parasitic fungi.

WEST AHEAD OF EAST IN PARKING FACILITIES

[Continued from Page 97]

Any solution of the traffic problem, to be a real solution, must tend to bring people into a locality—not keep them out. Only so can business in such localities have the most favorable opportunities for growth.

In the solution discussed, the architect must take the lead. He is the designer, the man who can bring beauty and utility together. His suggestions as to how garage facilities can be incorporated in an office building may well turn what otherwise would be a difficult structure to rent into one for which there is a waiting list.

As an example, take the Chrysler Building, the Lincoln Building, the Daily News Building—all incompleted skyscrapers within a stone's throw of each other in New York City's congested section. If one building had garage facilities, would it rent more easily than the others? Ask the tenant. He knows.

STEEL JOISTS for RESIDENCE FLOORS

By
A A Fraser, C.E.

ARCHITECTS who make a specialty of designing houses of the better type have long been confronted with the problem of using for their floor joists a material that would eliminate shrinkage, one of the most destructive agents encountered in residence construction, and yet keep their costs within a minimum increase over that of wood joists which are now commonly used and in which shrinkage and its attendent destruction is inevitable.

In designing a residence for N. F. Baldocchi, in Sea Cliff avenue, San Francisco, the architects, Messrs. Bertz, Winter and Maury, devoted considerable time and study to this problem and finally adopted for their floor framing, a series of plate girder joists, which would eliminate all possibility of shrinkage.

While the use of steel joists in floor construction is a practice of long standing, this use has heretofore been confined to structures of the commercial type, such as hotels, office buildings, apartment houses and schools, the thought being prevalent in the minds of architects that the cost of this material for residence construction was prohibitive.

Once plate girder joists were decided upon for the Baldocchi house, the question of design was given special attention. A study of the accompanying floor plan will show that this residence is not of the ordinary type of architecture, very few of the rooms, there being eighteen in all, are typical and the necessity of supporting upon the floor framing an unusual number of bearing partitions was paramount. This condition was quickly solved after an investigation of the load carrying capacity of plate girder joists showed that a shallow depth joist, 7 inches in fact, would carry all the required superimposed loads. In their design, Messrs. Bertz, Winters and Maury, called for a wood sub-floor and an oak finished floor supported on wood screeds bolted to the joists. The top and bottom flanges of plate girder joists being made of hot rolled sections, lend themselves to this type of construction and insure a rigid base for the screeds and finished floor. The joists were spaced 15 inches c. to c., anchored at the ends to the supporting structural members by means of bolts and beam clips and securely bridged every six feet with 14-guage galvanized wire bridging. A further tie was secured by anchoring to the outside walls all joists running parallel to them.

Shrinkage in the floor framing of a residence is not only a concern of the architect and owner, but so completely affects the component parts of the building and plays havoc with the finished work of the structure, ruining the most carefully plastered walls, cracking and pulling finished trim and racking window installations, that a solution of this problem is of keen interest

*NOTE: Mr. Fraser, Assoc. M. Am. C. E., is Branch Manager of the Genfire Steel Company, San Francisco.

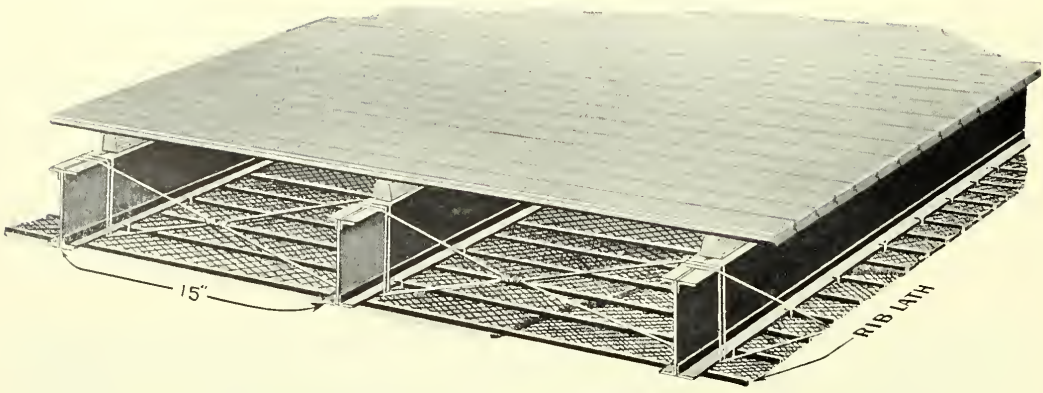
to all building trades interested in residence construction.

An item of prime consideration, not only in this but in all structures, is, of course, the initial cost and maintainence. An estimate of the architect's design, which was in strict conformity with engineering practice, showed that 20 tons of plate girder joists would be necessary for these floors. The specifications placed the burden of their actual increase in the cost of these joists over that of wood joists was in the architect's opinion a negligible one considering the certainty of eliminating shrinkage in these floors and the attendant expense of maintainence.

The writer, who supervised the erection of the steel joists, made an inspection of the floors after the finished floor was in place and one of the features that this inspection

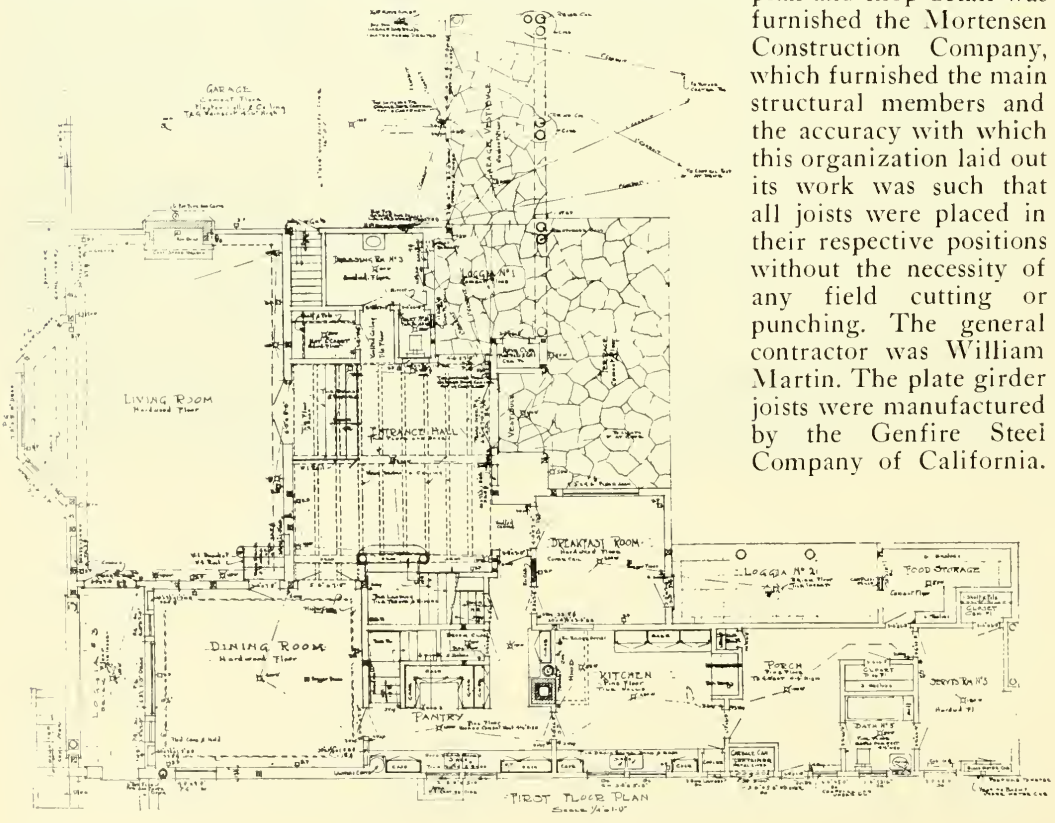
RESIDENCE FOR N. F. BALDOCCHI, SEA CLIFF, SAN FRANCISCO
Bertz, Winter & Maury, Architects

correct installation upon the manufacturer. This included all the necessary accessories, consisting of bridging for the joists, bolts and beam clips for connecting same with the supporting structural framing, screed anchorage and bolts for attaching screeds to the top flanges of the joists. The manufacturer's contract, including all necesary fabrication and erection of the above material, was of an amount that was acceptable to the architect when compared with the cost and installation of wooden joists. The developed which coincided with the findings of the architect, who made a separate inspection, was the complete absence of vibration of any sort in any part of the building. The rigidity of these floors was really beyond the expectations of both the writer and the architect. This is of particular interest when it is known that in certain parts of this building the supporting joists were used in cantilever form, so designed to carry the specified live load and also the dead load of the wall construction.



TYPICAL FLOOR CONSTRUCTION USED THROUGHOUT RESIDENCE OF N. F. BALDOCCHI

The ease and rapidity with which the joists were erected deserves mentioning. Each joist being detailed on the architect's plans and all bolt holes and connections being definitely shown, the shop fabrication developed into an easy problem. A floor plan and shop detail was furnished the Mortensen Construction Company, which furnished the main structural members and the accuracy with which this organization laid out its work was such that all joists were placed in their respective positions without the necessity of any field cutting or punching. The general contractor was William Martin. The plate girder joists were manufactured by the Genfire Steel Company of California.



PLAN, RESIDENCE FOR N. F. BALDOCCHI, SEA CLIFF, SAN FRANCISCO
Bertz, Winter & Maury, Architects

RELATIONS *of* ENGINEER *to* ARCHITECT

So much has been written and said about the engineer's relation to the architect, mostly partisan and propaganda written from the point of view of either engineer or architect, that no attempt will be made here to review all phases of the subject. We may be content with touching the high spots only, realizing the liability to a mixture of good and bad in any of the methods proposed. The very fact that there has been so much discussion pro and con in the past should serve to indicate that there is as yet no hard and fast rule governing all cases.

It should be no task to make out a strong case for either engineer or architect. Much depends upon the personalities of those involved—engineer, owner or architect, the class of work, and the particular job in mind. Some engineers would prefer to deal direct with the owner, others with the architect, and each of these possibly would have preference in some cases to the contrary.

The principal argument advanced for having the engineer under the control of the architect is that the owner is thereby relieved of a great deal of responsibility and has only the one party to deal with who is responsible for the full completion and co-ordination of the several branches of the work. However, the owner, by not coming into direct contact with the equipment work, has no assurance of what he is getting or that this branch of the work is receiving proper consideration. He may hear less of disputes and the work may suffer accordingly, differences which practically cease to exist when it is understood that the owner will act as final judge and give each a fair hearing.

The owner has appropriated a certain sum of money for the entire building project and should act as judge for the proper apportionment of this money to each trade. It may be confusing to some owners to decide rival claims, but most men of means have had experience and realize, in a general way, the character of the service given and the grade of equipment ordinarily used in a building of the proposed type. Owners, as a rule, are capable of perceiving logic, and engineers with sufficient ability should have no trouble in convincing an owner as to the truth of their arguments. More often the owner, having no prejudices, is easier convinced.

The engineer may have no more responsibility under this arrangement than he does when under control of the architect, for the latter, in case of trouble, is apt to shift the whole responsibility for the engineering on the engineer's shoulders. Of course where the owner is a corporation, the engineer may find it better to work for the architect, for the corporation may contain interested or opinionated individuals with axes to grind on theories, types of systems and products to use. It all goes back to the individual, as previously stated.

There is no working agreement between engineers and architects whereby each might be confined to their own particular field with better economic results to all. Co-operation in the minds of many means only a friendly interest and avoidance of conflict whenever the interests of the two parties concerned are identical. Self-preservation compels the architectural viewpoint to subordinate economy and utility in engineering to the finer points of beauty and arrangement of the building. The result is that the engineering essentials often suffer and have their usefulness impaired, and, in a great many cases, without the architect appreciating this fact.

Perhaps an interior decorator should not work apart from the direction of the architect, else the decorator might spoil the effect of marble and tile by his color scheme. Harmonious effects of the two artists are required and one must conform to the other but the case of the engineer is different, though it goes without saying that the engi-

neer should co-ordinate his equipment with the building which the architect designs. Unfortunately, this requirement often develops a difference between engineer and architect as to how far utility should be subordinated to beauty.

For example, to the mind of the engineer the class of building may not be marred by the placing of runouts to radiators at the ceiling. In the opinion of the architect these should be concealed, yet when concealed there is often very little room for installation or expansion and the chances of trouble due to careless workmanship in tight places, is great unless extreme vigilance in supervision is exercised. How far should one give way to others in cases of this kind? Does the engineer have his way? He does not. Who takes the responsibility of failure? Foolish question, the engineer, of course.

Some architects who uphold the rules of their own profession by maintaining their fee do not hestitate to cut the engineer's fee, thus placing at an unfair advantage the other architect who, selecting the best of engineering talent, will neither cut his own fee nor that of the engineer. Again, though an architect is entitled to some percentage of the cost of mechanical equipment for co-relating architectural and engineering plans and specifications and for other duties familiar to all of us, he is not always entitled to the higher percentages which he asks of the owner. The architect's demand for extra large fees on the cost of mechanical equipment has sometimes resulted in the owner separating the architectural and engineering work, paying to the architect and engineer a full fee on the work of each.

Some engineers contend that the construction of a building is mainly an engineering problem and should be in the hands of an engineer who should retain an architect to add to the structure the desired touches of beauty.

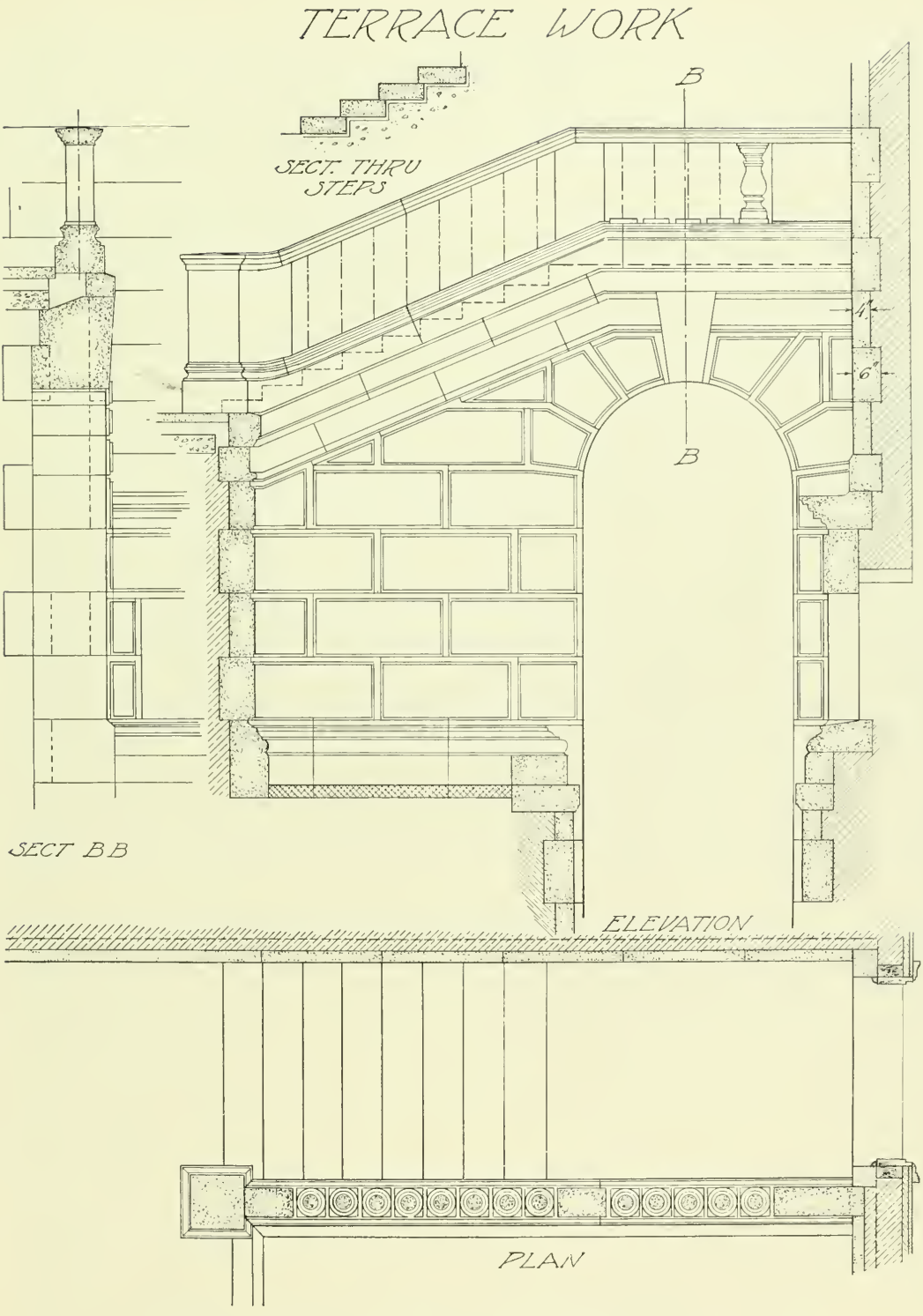
Coming to the question of engineers working in the office of the architect, it is a fact that a vast amount of architectural work is required to warrant the maintenance of an engineering department. The volume of work in one office however, is not, as a rule, sufficient to maintain expensive and high-grade talent. Engineers temporarily taken on during the rush receive no attention and are left to their own devices, for the office is too busy at such times. As a consequence, the office has no settled policy or established in engineering design.

Where an achitect maintains an engineering department it is not unusual to find engineering requirements subordinated to the architectural requirements of the chief designer who may be temperamental to the extreme and one so directly in his power as those within the same office is too near home. The unfortunate engineer in this predicament has less chance of influencing the chief designer than if he came from the office of some consulting engineer which the architect might otherwise retain.

If anything, it would be reasonable to expect that the architect, in order to maintain his engineering department, should also take in engineering work for buildings on which he does not act in the capacity of architect. This is just another way of proving that the reverse should be the case; that is, the engineer should maintain an architectural department for beautifying the building which he also equips and through this department do architectural work upon buildings with which he has no connection as engineer.

Architecture is an art developed through the centuries, compared to which the mechanical services of buildings is in its infancy. This accounts for the predominance of the architect, but building equipment, now and for some time, has been developed to the point where the engineering requirements of buildings should be determined entirely by the engineer and without the restraining hand of the architect.

At the present time the engineering requirements of buildings, where not designed by the owners' engineering department, or by the builder or sales engineer for the architect or owner, is usually done by the consulting engineer, under the control of the architect. There is no doubt that such work is done satisfactorily in a great number of cases and that a number of engineers seem content to work this way or else are indifferent to the situation.



MEASURED DRAWING FOR MARBLE TERRACE WORK, ARLINGTON MEMORIAL AMPHITHEATER, ARLINGTON, VA.

CARRERE & HASTINGS, ARCHITECTS

The ARCHITECT'S VIEWPOINT

¶ *The Architect's Equipment.*
¶ *The Practical and Aesthetic.*
¶ *Professional Spirit and Collaboration.*
¶ *Business-like Basis for Service.*

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A CONTEMPORARY says the Prorege of Arcopia in the fanciful tale by Henry B. Fuller, the graceful writer, who has so recently departed from among us, "is one who presented the highest union of the practical and aesthetic, who walks with his feet upon the earth and his head among the clouds, and wielded all the forces that art might offer—the rhythm of music, the glow of painting, the rotund pomp of sculpture, the graceful certitudes of geometry, the clearness and directness and force of rigorous logic."

Although these are but the casual words of a character in fiction, we would probably accept them as denoting fundamental qualifications in the architect of today as well as in the time of the Chevalier of Pensieri-Vani who furnished the title for Mr. Fuller's story. We might even go back still further into the past to the time of Imperial Rome when the building construction then undertaken would appear to particularly demand that architecture be considered in a comprehensive manner, including its practical phases. "One who professes himself an architect," said our old friend Vitruvius, speaking in the days of Augustus Caesar, "should be both naturally gifted and amenable to instruction. Let him be educated, skillful with the pencil, instructed in geometry, know much history, have followed the philosophers with attention, understand music, have some knowledge of medicine, know the opinions of the jurists, and be acquainted with astronomy and the theory of the heavens."

* * *

EVEN these fundamental principles named by Vitruvius would appear to find a place in the equipment of the architect of today. Architectural composition requires rhythm as in music, plans for housing demand that consideration be given to the public health or sanitation, which may be considered as one with practice of medicine, legal rights involve the opinions of the jurists and for the theory of the heavens, we have orientation as affecting sunlight. Today, as always, we should recognize that in the architect we must have "the union of the practical and aesthetic" that no work of architecture is possible unless based on practical considerations, and that there is no architecture without aesthetic expression. In maintaining "the practical and aesthetic" however, in their proper relations, there seems to be need for "clearness and directness of rigorous logic" to keep the architect in his true position and the public from classifying him as a visionary artist or a merely utilitarian constructor.

While the architect is called upon continually to defend his position as a practical man, he cannot ignore the fact that his profession is one of the major fine arts. All of these major fine arts—architecture, painting, sculpture, music and poetry—have a practical and scientific basis; painting in the basic suggestions from natural facts, music and poetry founded on rhythm and harmony. Architecture on its practical side has so many complex factors with which to contend that it becomes hard for the aesthetic to hold its

true position, and for the architect to maintain his standing as the artist and at the same time that of a practical planner, constructor and generally level-headed man of affairs.

* * *

WHAT this dissertation is really leading up to is a consideration of how an architect can or should practice his comprehensive and confusing profession; for it is a profession, whatever individual practitioners may attempt to do to it. Being a profession would it not be worth while for it to collaborate with other professions, in trying to uphold and coordinate the professional spirit? It collaborates with the artist and the craftsman in attempting to secure a coordination in aesthetics and the contractor and engineer in more practical contacts, why not with other professions, such as law and medicine, in trying to get a clear concept of professionalism and uniform methods of professional procedure?

Some years ago a group of high-minded architects, doctors, lawyers and other professional men, made an effort to do this through an organization created largely for this purpose. It was an "Association of Professional Men's Clubs" made up of Chapters in various cities, somewhat analagous to the American Institute of Architects. The altruism of such an organization is difficult to translate into practical accomplishment, but in suggesting and attempting to establish a common ground of professionalism, we believe that much good was accomplished and a reference to the professional idea given on the outside cover of the published proceedings of the Second Annual Convention might well supplement our statement of the architect's equipment. This was called the "Paradox of Professionalism" and was substantially as follows: "The professional man is an amateur. He does his work because he loves it. He does it well because he cares about it enough to give it all his attention and all his devotion. But he also loves his work because he believes that through it he may serve the best interests of his fellow men, and he loves them with a deep sincerity that is the dominating motive of his life."

* * *

ALTHOUGH pitched in a high altruistic key, is not this basically true of the architect? The main aim of the architect, as well as of any other professional man, is service. He sells nothing else, and his service of course should be disinterestedly in the interest of the client whatever compensation the architect may receive or hope to receive therefor. The architect's service, in one respect at least, appears to be differently considered from that of the doctor or lawyer. With doctors and lawyers, the patient or client expects to get his disinterested service and to pay for it. The architect on the contrary is expected to advise free of cost, taking a gamble on whether he can land a job and thereby secure some compensation. The public consequently are inclined not to consult an architect until their minds are made up, fearing they will be committed to a program of expenditure which they neither should undertake or can afford.

In place of the public being led to believe that the architect will be influenced by future conditional prospects of financial return, would it not be better by placing advice on more of a business basis to remove from the inquirer's mind suspicion of any antagonistic interest when he seeks to determine from the architect whether a building should or should not be undertaken and how it should be done? To this business-like basis for professional service, free advice, free sketches and informal competitions are opposed, and if the architect would avoid such obstacles and steadfastly adhere to the main idea of disinterestedly serving the public, would not many of the problems disappear, and the architectural profession be the gainer in the end, financially as well as in dignity and in the satisfaction resulting from the maintainance of its true purpose?

CHARLES H. ALDEN, F. A. I. A., Seattle, Washington.

EDITORIAL CHAT

NO two buildings of the commercial type, erected on the Pacific Coast in recent years, have aroused so much interest and brought forth so much favorable comment as the Northern Life Tower in Seattle, Washington, and the Wilshire Boulevard Bullock Store Building in Los Angeles. Both structures, just completed, are of the step-back type with architecture strongly reflecting the modern trend. The Seattle building was designed by A. H. Albertson, with whom was associated Joseph W. Wilson and Paul Richardson. San Francisco architects, who have seen the Northern Life Tower say there is none more imposing or impressive west of Chicago. The Bullock building in Los Angeles was designed by John and Donald Parkinson and this structure was the center of great interest during the recent Architect's Convention in that city. Interesting photographs of both of these buildings are shown in this issue.

* * *

A RECENT copy of the official organ of the San Francisco Olympic Club contained a full page half-tone picture of what was declared to be a model of the accepted drawing of the club's new building. There were things about this picture not altogether pleasing from an architectural view point, and there was naturally considerable speculation as to why it was shown. It seems that the model was nothing more than a birthday cake and was not made with the intention of being an accurate reproduction of the architect's work. Naturally the architects were somewhat perturbed when they learned of the publication of the model. In talking to Mr. Baur, one of the architects, the writer was assured that the final design will be a vast improvement over the cake-model.

EVERY year about this time the architect and draftsman has the impulse to design a holiday greeting card for his little circle of friends. To do something original is everyone's ambition, yet everything under the sun seems to have been tried. The obvious thing to do is to ring some change in the true Christmas idea. This was attempted last year in some modernistic designs but they were cold and painfully unsentimental. The real significance of the season—the celebration of our Saviour's birth, should not be overlooked. Any one of the circumstances attending this event may be appropriately used. The Three Wise Men making their way to Bethlehem, guided by the Star in the East, their adoration of the Christ Child, the flight into Egypt,—any of these is capable of being decoratively delineated without being unduly plagiaristic as to design.

Closely associated with this idea is the expression of religious observance achieved by representation of the entrance of a church or of its interior with a ceremony going on. Candles, seven-branched candelabra, and other symbolizations of churchly celebration may also be used to suggest this phase of Christmas. The Santa-Claus legend has furnished a set of Christmas ideas but a more popular notion is that of Christmas Good Cheer as indicated by suggestions of feasting and revelry. A rotund, mediaevally-clad page bearing a flaming boar's head, roast pig, or plum pudding, or perchance a brimming bowl of punch or ale has been often used to express this conception of the holiday, and will be used again as long as gustatory appreciation endures.

The old custom of singing carols gives us another subject for timely picturization. A band of serenaders singing in the street under brightly lighted windows always makes a pleasingly seasonable scene for a card and can be worked up in a variety of ways.

WITH *the* ARCHITECTS

LANDSCAPE ARCHITECTURE

The Pacific Coast Chapter of the American Society of Landscape Architects, in conjunction with the sculpturers of the Pacific coast, are planning an exhibition of Landscape Architecture and Sculpture to be held in the Architects' Building in Los Angeles during the month of January. Further details with reference to this exhibit will be forthcoming at a later date, according to J. W. Gregg, Secretary of the Pacific Coast Chapter, American Society of Landscape Architects.

SCHOOL ARCHITECTS NAMED

The Santa Cruz Board of Education has named the following architects to design school buildings which are to be built from the proceeds of a recent bond election:

Mission Hill Junior High School—John J. Donovan, Oakland.

Laurel School—William H. Weeks, San Francisco and Oakland.

Gault School—Alfred I. Coffey, San Francisco.

LOS ANGELES AIRPORT TERMINAL

One of the largest contracts to be awarded for a single project in Los Angeles in recent years is an airport terminal and industrial building at Jefferson and Main streets, for the El Travia Industrial Terminal Corporation. The George A. Fuller Company of New York received the contract on their bid of $10,500,000. The plans for the various structures were prepared by O. R. Angelillo, 6600 Lexington avenue, Los Angeles.

TWELVE STORY BUILDING

A $2,000,000 store and office building, twelve stories in height, is to be built on the south side of Wilshire Boulevard, near Cochrane street, Los Angeles, for the Dominguez Estate Company, from plans by Morgan, Walls and Clements, Van Nuys building, Los Angeles.

NEWSPAPER BUILDING

Rollin S. Tuttle has completed plans for a two-story reinforced concrete newspaper building for the Los Gatos Mail-News. The same architect is preparing plans for a Japanese church, Watsonville.

FRAME APARTMENT HOUSE

Albert H. Larsen, 447 Sutter street, San Francisco, has completed drawings for a three story and basement frame apartment building for Joseph Greenback. It is estimated to cost $60,000. The location is the north side of Union street, west of Steiner, San Francisco.

For the same owner, Mr. Laren has complettd plans for a theater, store and apartment building in Paso Robles, estimated to cost $165,000.

W. H. RATCLIFF BUSY

New work in the office of W. H. Ratcliff, Jr., Berkeley, includes a steel frame and concrete commercial garage at Oxford and Madison streets, for the Regents of the University of California, and a church and Sunday school group at Virginia street and Scenic avenue, Berkeley, for the University Christian Church. The latter project will cost in the neighborhood of $200,000.

SAN LEANDRO BUILDING

Plans have been completed by E. W. Cannon of Oakland for a two story steel frame and brick store and office building to be built on the site of the Estudilla house in San Leandro. There will be six stores and twenty-two offices. The improvements will cost $60,000.

BERKELEY APARTMENT HOUSE

Ernest Flores, architect of Oakland, has prepared plans for a $50,000 frame apartment house to be built on Blake street, Berkeley, for Clyde N. Sage. There will be sixty rooms divided into suites of two and three rooms each.

BANK BUILDING

Plans are being prepared in the office of Albert F. Roller, Crocker First National Bank building, San Francisco, for a one story reinforced concrete bank building for the Bank of America, at St. Helena, Napa county, California.

SAN JOSE BUILDING

The office of W. H. Weeks has completed plans for alterations and additions to the Paul Masson building, San Jose, estimated cost of which is $50,000.

BLACK GRANITE BUILDING

A building that will be unique in San Francisco, in that it will have a black granite facade, is being planned by Messrs. O'Brien and Peugh, to occupy a portion of the site of the old San Francisco Stock Exchange on Montgomery street, near California. The structure is to be two stories, mezzanine and basement and has already been leased to the Chapman-De Wolfe Company, stock brokers. Alongside of this building will be a seventeen story bank and office structure, now being designed by the same architects.

COURSE IN ARCHITECTURE

The special course in architecture and structural engineering, conducted by M. T. Cantell, architect and engineer, at the Frank Wiggins Trade School, Sixteenth and Olive streets, Los Angeles, for draftsmen and designers who contemplate taking the State Board of Architects' examination for certification, is held Tuesday and Thursday evenings of each week. The course consists of the primary subjects as named by the State Board of Architects in the requirements for examination.

ARCHITECTURAL PARTNERSHIP

The architectural firms of C. Frank Mahon and Lunberg & Eckvall have joined forces and will be known hereafter as Lundberg, Mahon & Eckvall, with architectural and engineering offices in Tacoma and in Seattle, in the same locations as the individual architects have heretofore occupied.

OAKLAND APARTMENTS

Chester H. Treichel, American Bank building, Oakland, has completed plans for a three story and basement frame and stucco apartment building at 13th avenue and East 36th street, Oakland, for A .C. Nelson. There will be twelve four and five room apartments.

MARINE HOSPITAL, SAN FRANCISCO

Plans are expected to arrive from Washington this month for a six story Class A marine hospital for the United States government. The structure is to be built in the Presidio of San Francisco, at an estimated cost of $1,500,000.

DESIGNING FACTORY

Guy L. Brown, American Bank building, Oakland, is completing plans for a one story steel frame factory to be built in Emeryville for the Standard Acetyne Gasoline Company. It will cost in the neighborhood of $10,000.

SAN RAFAEL APARTMENTS

S. Heiman, architect of San Francisco, has completed plans for a three story and basement frame and stucco apartment building to be erected at 5th and B streets, San Rafael, Marin County, California, for Robert Dollar. The approximate cost is $100,000. The building has been designed in the Italian type and will contain twenty-two apartments with garage and all modern conveniences.

CLASS A THEATER

Forrest J. DeGriffin, 226 Northwestern avenue, Los Angeles, is preparing plans for a Class A theater, store and office building for Earl L. White. The location is the southeast corner of Magnolia boulevard and Hollywood Way. The auditorium will seat 2000 and it has been leased to the West Coast Theaters, Inc.

BERKELEY RESIDENCES

Plans have been completed in the office of Edwin L. Snyder for an English type residence in Claremont Pines, Berkeley, for C. N. White; also, a country farm house for Mrs. R. W. Croninger and a residence in North Cragmont for Joseph H. Jackson.

SEATTLE SKYSCRAPER

An eighteen story Class A apartment building is to be built at 9th and University avenues, for the Chancellor Apartments, Inc. Louis Baeder, Securities building, Seattle, is the architect. The improvements will cost $2,000,000.

ATHLETIC CLUB BUILDING

Plans are being prepared by Sherwood Ford, Lyon building, Seattle, for a class A club building at 6th avenue and Union street, Seattle, for the Washington Athletic Club. Improvements will cost $2,000,000.

SEATTLE HOSPITAL

Schack and Young, Central building, Seattle, are preparing plans for a fifteen story Class A reinforced concrete, stone, brick and terra cotta hospital for the Seattle General Hospital Association. The building will cost $1,500,000.

ATHERTON COUNTRY HOUSE

Clarence A. Tantau, architect of San Francisco, is completing plans for a reinforced concrete country house at Atherton, San Mateo county, for Mrs. Carl Raiss. The house will cost between $60,000 and $70,000.

SPANISH RESIDENCE

Grimes & Schoening, architects of San Mateo, have completed plans for a Spanish house in Baywood, near San Mateo, to cost $18,000. They have also prepared plans for two brick veneer houses in the same district for Robert Smith. This firm has two apartment house projects in their office, one of which is a $250,000 six-story building, to be built in Baywood, and the other a three-story frame and stucco apartment building in the same district. The owner of the latter is J. Steuer.

SIX-STORY APARTMENT BUILDING

Herman Hogrefe, 140 Greenwich street, San Francisco, is the owner of a six-story Class C apartment building, with Class A garage, to be built on the southwest corner of California and Octavia streets, San Francisco, from plans by Edward E. Young. The building will contain one hundred and eight rooms and will cost $250,000.

H. A. MINTON BUSY

New work in the office of H. A. Minton, Underwood building, San Francisco, includes a dormitory and refrectory building at Santa Clara College, a branch bank at Santa Rosa for the Bank of Italy and a creamery building at Watsonville for Resetar Brothers.

CLASS A HOSPITAL

Preliminary sketches have been approved for a seven story Class A hospital to be built on the northwest corner of Hoover street and Willowbrook avenue, Los Angeles, for Sylvan Lodge Hospital Association. The architect is William E. Flannery.

ALAMEDA GARAGE

A contract has been let by A. Hewettson, architect, with offices at 526 Powell street, San Francisco, for the construction of a one-story and basement steel and brick auto sales building and garage in Alameda for the Dietz Motor Car Company.

EIGHTEEN ROOM APARTMENT

Wood, Flores and Ward, architects of Oakland, have completed plans for an apartment building to contain eighteen two and four room apartments for M. C. Blake. The location is Blake street and Chilton Way.

GRANTED CERTIFICATES

At the October 29th meeting of the State Board of Architectural Examiners, Southern District, the following were granted provisional certificates:

Gilbert T. Lord, 4947 Marathon street, and Charles A. Stone, 2219 Juliet street, Los Angeles.

The following list were granted provisional certificates at a special meeting held October 1:

Nathan Lindell Coleman, 1558 North Vine street, and Douglas Honnold, 1747 Cahuenga avenue, Los Angeles.

The State Board of Examiners, Northern District, granted provisional certificates on October 29 as follows: Harold F. Genss, 2249 Ward street, Berkeley, and Earl R. MacDonald, 194 John street, Oakland.

APPRECIATION

Editor THE ARCHITECT AND ENGINEER,
San Francisco:

The members attending the Second Annual Convention of this Association passed a vote of appreciation to the management of THE ARCHITECT AND ENGINEER for the many courtesies extended to the Association during the past year.

Again thanking you for the interest you have taken in the advancement of the Association and assuring you of our full co-operation in the future, I remain,

Yours very truly,
STATE ASSOCIATION OF CALIFORNIA ARCHITECTS, SOUTHERN SECTION
By RICHARD C. FARRELL, *Secretary-Treasurer.*

PRESIDENT NAMES DELANO

Appointment by President Hoover of William Adams Delano, President of the New York Chapter of the American Institute of Architects, as a member of the National Capital Park and Planning Commission is announced. Mr. Delano succeeds the late Milton B. Medary of Philadelphia, former president of the Institute, who was named to the Commission by President Coolidge in 1926.

Mr. Delano will officially represent the profession of architecture in the development of the Plan of Washington, which is actively sponsored by Secretary Andrew W. Mellon of the Treasury Department, and for which Congress has authorized an expenditure of $75,000,000.

Selection of Mr. Delano to succeed Mr. Medary as Chairman of the Institute's Committee on Public Works was also announced by the President of the Institute, C. Herrick Hammond of Chicago.

PERSONALS

Victor Galbraith, Stockton architect, received honorable mention and a cash award of $50 in the Common Brick Manufacturers' Association second common brick school building competition, which ended recently. His submission was a perspective and floor plans of the Fairchild School on Roberts Island road, near Stockton.

Howard Gilkey, landscape architect, has been retained by the Kern county supervisors to make a general plan and supervise the development of the Kern river park, eight miles from Bakersfield.

Charles H. Alden, architect, has moved to 6153 Arcade Building, Seattle, Washington.

Frederick H. Meyer, newly elected president of the Northern California Chapter, A. I. A., has returned from an enjoyable trip abroad. He was accompanied by Mrs. Meyer.

W. K. Daniels, deputy-chief of the Division of Architecture, State of California, has been granted a certificate to practice architecture by the State Board of Architectural Examiners, northern district.

Wright & Gentry have moved from 315 Marine Bank Building, Long Beach, to 537 Jergens Trust Building, Long Beach.

Kenneth A. Gordon has moved from 200 E. Colorado street, Pasadena, to 175 E. Green street, Pasadena.

P. P. Lewis has moved from 1905 Wilshire boulevard to 205 Administraton Building, West Los Angeles.

Harld O. Sexsmith and Walter W. Wade have dissolved partnership. Mr. Sexsmith will continue the practice of architecture at 6636 Hollywood boulevard, Los Angeles.

J. C. Longueville has established a new office at 1616 Chelsea Road, San Marino.

Robert M. Farrington has moved from 1313 Wilshire boulevard, Beverly Hills, to 218 N. Beverly Drive, Beverly Hills.

GOVERNOR MAKES APPOINTMENTS

Governor C. C. Young has made the following appointments on the California State Board of Architecture: Northern District, Henry H. Gutterson of San Francisco and Berkeley to succeed James W. Plachek; James S. Dean, Sacramento, and John J. Donovan, Oakland, incumbents; Southern District, Louis J. Gill of San Diego to succeed William H. Wheeler; John Parkinson and John C. Austin, Los Angeles, incumbents.

COMPETITIONS

FELLOWSHIP CONTESTS

The American Academy in Rome has announced its annual competitions for fellowships in architecture, landscape architecture, painting, sculpture and musical composition.

The competitions are open to unmarried men not over 30 years of age who are citizens of the United States. The stipend of each fellowship is $1500 a year with an allowance of $500 for transportation to and from Rome and $150 to $300 for materials and incidental expenses. Residence and studio are provided at the Academy, and the total estimated value of each fellowship is about $2500 a year for three years, with opportunity for extensive travel.

The Grand Central Art Galleries of New York City will present free membership in the Galleries to the painter and sculptor who win the Rome prize and fulfill the obligations of the fellowship.

Entries for competitions will be received until March first. Circular of information and application blanks may be obtained by addressing Roscoe Guernsey, Executive Secretary, American Academy in Rome, 101 Park avenue, New York, N. Y.

COLLECTIVE BID HELD ILLEGAL

The proposal of the Allied Architects' Association, submitted to the Board of Commissioners, District of Columbia, to enter into a contract to do all of their architectural work for the government of the District of Columbia, has been disapproved by the Comptroller General.

In a decision transmitted to the district commissioners, the comptroller general cited the legal obstacles to the plan proposed. If approved, it would provide award of the contract to the association as a unit, instead of individual bids from architects for architectural work, he said.

It was also pointed out that approval of such a proposition would establish a precedent and thus open the way for other organizations representing manufacturers of various lines, to bid collectively instead of the manufacturers dealing direct with the government, which is the practice now followed by bidders on government supplies.

Under the law, it was explained, bidders for contracts must have open and free competition, and contracts can be awarded only to the lowest responsible bidder.

CONTRACTORS PENALIZED

After having been fined $800 for violations of the law prohibiting the employment of anyone for more than eight hours in a single day on public work on complaint of the State Labor Commissioner, Anderson & Johnson, school contractors, were penalized $940 for the same offenses by the San Diego Board of Education. In the justice's court only $100 of the $800 fine was exacted, the balance of the penalty being suspended, due to a showing by the contractors that it was their first public works contract and they were unaware of the law. This was done under the amendment to the law passed by the California Legislature of 1927, permitting adjustments to be made in such cases instead of exacting $10 a day fine for each offense arbitrarily set in the original statute.

The $10 per day penalty was exacted by the San Diego Board of Education as a forfeit for violation of the contract between the board and contractors, the contract calling for observance of the law as on all public works job. Protest was made by the contractors through their attorney that they were being penalized twice for the same offense. On advice of the district attorney, however, the board assessed the full penalty for the 94 reported offenses, their legal advisor holding they had no power to remit or reduce the amount.

THOMAS HASTINGS

Thomas Hastings, aged 69, one of the foremost of American architects, died at New York October 23. Mr. Hastings had undergone an operation for appendicitis, and seemed to be recovering up to a short time before his death. He was a member of the firm of Carrere & Hastings, which designed the Ponce de Leon and Alcazar Hotels at St. Augustine, Fla., the New York public library and other notable public buildings.

ARE LICENSED ARCHITECTS NOW

At the meeting of the State Board of Architectural Examiners, Northern district, Tuesday, November 26th, the following were granted Provisional Certificates to practice architecture in California: John E. Dinwiddie, 2815 Oak Knoll, Berkeley; Guy O. Koepp, P. O. Box 644, Carmel; Walter C. Clifford, 1253 Clay street, San Francisco; Edmund J. Resing, 488 Pine street, San Francisco.

SAN RAFAEL SCHOOL

Plans are being completed in the office of N. W. Sexton, de Young building, San Francisco, for a concrete gymnasium for the San Rafael high school.

PROPOSED CITY-COUNTY BUILDING, TACOMA, WASHINGTON

TACOMA CITY-COUNTY BUILDING

The Tacoma Architects, Inc., have prepared preliminary plans for a proposed new City-County building, Tacoma. The corporation is composed of a group of Washington State Chapter members in Tacoma, organized for the purpose of securing better architectural results in the building of public structures. The commendable work of this group in re-planning a fire alarm station is well known.

The group of buildings proposed contains the Public Utilities building, for which working drawings are now being made, and the proposed future development of a group which would provide for the ultimate needs of the city and county as their activities expand and as they need to be housed in buildings less antiquated and more conveniently arranged.

STATE *to* SPEND MILLIONS *for* NEW BUILDINGS IN 1930

WE have to thank W. K. Daniels, deputy chief of the Division of Architecture, state of California, for the following excellent description of the work of this important state department, together with a forecast of future construction work under its jurisdiction:

"A summation of the volume of work the Division of Architecture handles perhaps warrants a brief on its organization.

"The Division of Architecture is a division of the State Department of Public Works. It consists of a chief of division, assistant architect, deputy chief of division, chief architectural draftsman and draftsmen, structural engineers, mechanical engineers, electrical engineers, civil engineers, estimators, specification writers, superintendents of construction, accountants, clerks and stenographers, having a total personnel of 85.

"The duties of the Division are to make plans and specifications for all new buildings of a value in excess of $1,000 at the various state institutions; to let contracts for and superintend their erection, or, in case satisfactory contracts cannot be made, to construct the buildings by day labor; to care for all alterations and repairs to existing buildings, on the same basis where the amount involved is in excess of $1,000.00; to design and install all heating, lighting, ventilating, refrigerating, water supply, mechanical and electrical plants of every nature—whether changes, extensions, or original; survey grounds, lay out walks, drives, and roads; provide water supply, sewer and drainage systems, requiring the design and construction of dams, reservoirs, pipe lines, wells, pumping plants, ditches, sewage treatment and disposal plants and drains.

"Construction activities are scattered from Mount Shasta to San Diego, there being over 50 different places to care for, which fact illuminates the wide field of operation and magnitude of supervision not to mention the problem of securing necessary data, information, approvals, etc., before proceeding with a project.

"A great many of the state institutions are small cities within themselves and require buildings of about every nature and type. When you consider the state hospitals for insane and narcotic addicts, prisons, colleges, armories, military camps, industrial schools and other institutions, the magnitude of the type of structures and their auxiliaries demanded is apparent.

"It is the policy of the state to erect permanent buildings consisting for the major part of reinforced concrete structures. Brick is used to some extent chiefly where the design of buildings erected previously has set a precedent. Clay tile roofs are favored with some slate and asbestos shingles. Some of the smaller structures, such as physicians' residences, are of frame construction. Building materials are chosen that meet our requirements both as to economy and practicability.

"During the year 1929 the Division of Architecture will have completed in the office a total construction valuation of approximately $3,200,000 representing approximately 170 projects of varied descriptions and sizes of which 80 per cent is being or will be constructed by the contract method.

"I wish to call your attention to the institution names "New State Hospital," "Institution for Women," and "Prison for First Offenders." These will be new institutions and the sites have not at this date been selected.

"Following is a list of some of the major projects for which plans are being prepared and which will go forward early in 1930:"

Ward building, Pacific Colony	$ 60,000
Physician's cottage, Pacific Colony	10,000
Long Beach Armory	75,000
Industrial building, Napa Hospital	7,500
Cannery at Agnew Hospital	15,000
Laundry, San Quentin Prison	75,000
Warehouse, San Quentin	100,000
Kitchen and equipment, Whittier school	85,000
General shop building, Whittier school	45,000
Guard house, Veteran's Home	16,000
Hospital building, Stockton Hospital	100,000
Ward building, Narcotic hospital	40,000
Industrial shop and gymnasium, Narcotic hospital	20,000
Industrial building, Stockton Hospital	25,000
Ward attendants' quarters, Agnew Hospital	225,000
Kitchen commissary and steam plant, Agnew Hospital	97,500
Physician's cottage, Agnew Hospital	10,000
Science and art building, Santa Barbara College	120,000
Annex to School for Blind	49,000
Kitchen and commissary, New State Hospital	120,000
Four ward buildings, New State Hospital	380,000
Steam plant, New State Hospital	85,000
Remodel Administration building, Folsom Prison	20,000
Quarters for Infirm Females, Patton Hospital	42,000
Pathological laboratory, Agnew Hospital	80,000
Annex to Girls' Home, School for Blind	9,500
Sewage disposal, New State Hospital	65,000
Laundry, New State Hospital	65,000
Attendants' Quarters, Administration building and Superintendent's cottage, New State Hospital	120,000
Two barracks building, Veteran's Home	340,000
Water supply system, Preston School	70,000
Athletic field and house, Santa Barbara College	10,000
New wings, San Francisco State College	325,000
Ward buildings, Mendocino Hospital	116,000
Physician's cottage, Napa Hospital	10,000
Physician's cottage, Sonoma Home	10,000
Commissary building, Sonoma Home	26,000
Service building, San Diego College	56,000
Two ward buildings, Mendocino Hospital	165,000
Guard cottages, San Quentin Prison	25,000

Sewage disposal system, Folsom Prison	50,000
Boiler equipment, Folsom Prison	20,000
Industrial building, Mendocino Hospital	20,000
Physician's cottage, Stockton Hospital	10,000
Laundry addition, Sonoma Home	10,000
Hospital unit, Pacific Colony	125,000
Administration building, Pacific Colony	55,000
Industrial shop building, Preston School	37,700
Superintendent's cottage Preston School	25,000
Assembly hall, Chico College	180,000
Gymnasium, San Jose College	130,000
Boys' and girls' dormitory and community house, School for the Deaf	300,000
Training School, Humboldt College	90,000
Annex to Boys' Dormitory, School for Blind	9,500
Administration bldg., Institute for Women and steam plant	180,000
Jute Mill and prison walls, San Quentin	100,000
Extension dining room, San Quentin	50,000
New prison for first offenders	300,000
Industrial bldg., Institute for Women, warehouse, farm buildings and laundry	70,000

MAMMOTH STEEL BRIDGE PLANNED

A bridge with towers exceeding the height of the Woolworth building in New York City will be constructed in commemoration of the American soldiers who fought in France, according to D. B. Steinman, consulting engineer, in an address before the recent convention of the American Institute of Steel Construction. Dr. Steinman reviewed the past fifty years of bridge building, years during which steel was available, and described some of the most massive bridge structures in the world.

The Liberty bridge, across the Narrows on New York harbor, he said, will be 4500 feet between the main spans and 235 feet above high water. The main span of the proposed bridge will be 1000 feet longer than the main span of the Hudson River bridge now building, which, in turn is twice the span of the next greatest bridge.

The towers will each be 800 feet high, and the main cables from which the bridge is to be suspended will measure 48 inches in diameter, each containing 48,000 wires, and the strength of the wire will be 240,000 pounds per square inch. The towers will be artistically designed in steel and unadorned, he said, and the whole structure will express the "Spirit of Steel." Observation platforms crown the towers, which will be equipped with a carillon of bells, and beacon lights.

RETURNS TO SAN FRANCISCO

Stanton Willard has returned to the San Francisco office of Gladding, McBean & Co. to handle promotional sales of all architectural products. During the past year he was in charge of the decorative tile department at the Los Angeles office of the company.

Mr. Willard will establish a studio here to cooperate with architects in the use of terra-cotta, tile, etc.

A certified architect, Mr. Willard had eastern experience with York & Sawyer of New York, and spent eleven years with Bliss & Faville, of San Francisco, so he is well acquainted in the profession.

ONCE AGAIN—DO WE BUILD FOR THE FUTURE?

(The Latch String)

"When we build, let us think of building—forever."
—John Ruskin,

The sentiment is noble, but is the sense good?

Factory construction forty years ago was so different from modern standards that the old buildings are nearly worthless. Only the walls of apartments twenty-five years old have any value. To make them habitable, rentable, and economically valuable the interiors must be rebuilt. Even houses, a generation old, are inadequate and require extensive overhauling.

An automobile, although built to last a lifetime, is a monstrosity in fifteen years. A ten-year-old dress suit, even if designed by a king's tailor, makes the wearer look like a character from a Dickens' novel. A woman's dress is unwearable in three years.

Look at the pictures of the gay nineties. If the furniture, bric-a-brac and clothing, shown in a sketch, were offered for sale at auction, the highest bid would be less than $10.

What is the conclusion?

With history warning us that change is as certain as the tides, is it wise to pretend that we are building our house for our great-grandchildren? Would such an attitude be foolish?

REAL ESTATE BOND EXCHANGE WOULD BENEFIT BUILDING CONDITIONS

(Bulletin, Illinois Society of Architects)

During recent weeks there has been a general slowing up of contemplated improvements due in a very large measure to the impossibility of financing speculative projects. The investing public is in the stock market and apparently is not interested in real estate bonds, and of course the bankers *cannot afford* to carry real estate bonds with an interest rate from 6% to 6½%, as their surplus funds may be also invested in the call loan money market or otherwise that will net a much larger return, as well as being invested in more liquid assets.

What is urgently needed in Chicago is a real estate bond exchange, similar to the exchange planned for New York City. At present the average net return on real estate investments is greater than the average return of even the best listed stock based upon present market prices. The difficulty is that real estate bonds are not liquid and there is no way in which these bonds may now be disposed of except by private sale.

The plan being developed in New York City will be watched with great interest.

SOCIETY and CLUB MEETINGS

SOUTHERN CALIFORNIA CHAPTER

H. Roy Kelley and Harrison Clark, winners of the first and second prizes in the National Better Homes Architectural Competition, were the guests of honor at a joint meeting of the Southern California Chapter of the American Institute of Architects and the Los Angeles Architectural Club, held Tuesday evening, November 12th, at the University Club, Los Angeles. John Steven McGroarty, author of the Mission Play, was the principal speaker and told of the achievements and influence of the padres who designed and built the California missions.

George P. Hales, president of the Los Angeles Architectural Club; Pierpont Davis, president of the Southern California Chapter, A. I. A., and David J. Witmer, chairman of the judging committee, National Better Homes Competition, also participated in conducting the program for the evening.

After the dinner the members and guests adjourned to the exhibit rooms in the Architects' Building, where the exhibit of all prize-winning and honorable mention designs in the National Better Homes Architectural Competition was formally opened.

At the business session of the Southern California Chapter, A. I. A., the nominating committee reported that nominations for officers for the next year had been made as follows: H. C. Chambers for president, Donald B. Parkinson for vice-president, H. Roy Kelley for secretary, Ralph C. Flewelling for treasurer, and Gordon B. Kaufmann for director for three-year term.

WASHINGTON STATE CHAPTER

Washington State Chapter held its first regular meeting after the summer series at the College Club, Seattle, Thursday evening, October 3. There was a good attendance and after the usual social gathering and dinner the meeting was called to order by President Ford. The minutes of the previous meeting were read and approved as was also the treasurer's report, paving the way for reports of committees.

Mr. Myers, in reporting for the Committee on Civic Design, stated that plans had been made by the Chapter for the architectural treatment of the water tower in Woodland Park and that the money for its construction had been appropriated. A change of city administration, however, had appeared to leave the matter in abeyance. Mr. Myers and Mr. Albertson had spent considerable time trying to get some action by the city, but it was apparent that in some quarters opposition had developed.

Mr. Vogel, reporting for the Committee on Publicity, said that he was trying to get short biographies of all members so that they would be immediately available for publicity purposes whenever a member had accomplished something that provided good copy. He also stated that Mr. Aitken had written letters to a large number of producers of building material, asking them to insert a clause in their advertising, advising prospective owners to employ architects.

A proposed amendment to the Constitution of the Chapter, changing the name of the Executive Committee to that of Executive Board was read.

Mr. Vogel spoke about a movement that had been initiated among local architects to confer with the City Building Department, urging it to require that application for permits be accompanied by properly designed construction drawings. The practice of having the Department supply the deficiencies in designs made by the builders was contributing largely to the congestion in the Building Department office. On motion of Mr. Albertson, it was voted that this matter be referred to the Committee on Ordinances.

A motion was passed directing the secretary to write a letter to the Armstrong Linoleum Company objecting to the plan of service they offered as cheapening the services of an architect.

Mr. Gould was then introduced and presented an illustrated talk on Washington and the L'Enfant Plan.

WASHINGTON STATE SOCIETY

The October meeting of the Washington State Society of Architects was held at the Hotel Gowman, Seattle, on the evening of October 3rd.

Resolutions were passed favoring a low-level betterment of facilities for travel between Puget Sound and the portion of the State of Washington immediately east of the Cascades.

John S. Hudson, architect, was the principal speaker of the evening. He spoke upon the Cascade Tunnel, following which this resolution was unanimously passed:

WHEREAS cheap and rapid transit is the most vital business affecting the human race, and

Whereas the Cascade barrier seriously obstructs easy transportation from one section of our state to another, and

In view of the fact that competition in the saving of time in all modes of travel is of transcendent importance, and

Whereas this transportation factor will determine the destiny of the competitive ports of the Pacific Coast, and especially will this factor direct and control passenger and freight traffic to and from the great interior, as well as from coast to coast and between Europe and Asia;

IT IS NOW RESOLVED, that it is the sense of this association that we favor a separate and low-level electrically operated tunnel through the Cascade barrier under the snow-line, situated as nearly as possible in the center of the state and capable of uninterrupted use by all forms of traffic demands, for both the state and the nation.

Washington State Society of Architects
Wm. J. Jones, President
O. F. Nelson, Secretary.

The November meeting took the form of a dinner at the Gowman Hotel on the evening of November 7th.

L. A. ARCHITECTURAL CLUB NOTES

(From the Lintel)

At the October meeting of the Los Angeles Architectural Club, C. J. Derrick said that the Engineer is the Architect after all.

* * *

Richard S. Requa showed four reels of motion pictures and thereby proved that the psychologist is right in his contention that man loves mystery. In his pictures of North Africa where the veiled ladies of the harem passed, the eager murmurs of the members rose to a strident clamor; everything was left to the imagination, nothing was in evidence. Later, in his picture of Spain, where the prevailing costume of the American ladies left nothing whatever to the imagination, snores were heard at frequent intervals. In the words of the Psalmist: "Woman, woman, they charm is mystery."

* * *

The Club wishes to thank Stanley Johnson for his generous contribution. Two water colors, one a picturesque corner in old Los Angeles, the other an architectural subject, are now hanging in the Club offices. Members are invited to drop in and inspect them, and at the same time decide on which wall they would like to hang some little sketch of theirs

* * *

A recent visitor to our Clubrooms was J. E. Dinwiddie, a director of the San Francisco Architectural Club, (and cover designer for THE ARCHITECT AND ENGINEER). He appeared much interested in our spacious (?) quarters and browsed about for some little time. We asked him for news of his own organization and were much impressed when he told us the San Francisco Club occupied three floors (*floors,* not rooms)—one for recreation purposes, with writing desks, card tables, etc.; the basement containing the assembly hall for meetings and banquets, and the top floor given over to the Atelier. However, he consoled us by saying that what we lacked in space we made up for in efficiency; that they had no such business-like employment bureau, no centralized club office where information may be had at all times, and no man-sized publication, such as the "Lintel."

* * *

It looks like First Mention and medals for the Atelier this year. In spite of football the men have produced thirteen sketch problems and twelve analytiques and projects. Nick Brandt seems to be leading in the race—perhaps we have another Fuller in the bunch, although the results are not yet known. The Atelier is looking for new quarters. Any information will be appreciated by Al Sellman-Berger, Sous-massier. The Atelier thanks Mr. George Hales for his cooperation at their recent meeting.

* * *

The summer heat isn't the only thing that remains with us; the quiet period in architectural offices seems to have continued into the fall. The Bureau does its best, but come on, you architects! Our records the past four months show that over ninety per cent of the calls for draftsmen *received* by the Bureau, are *filled* by the Bureau. We can supply men even in specialized lines such as mechanical engineering, mural painting, surveying. As for draftsmen — we have them!

* * *

President Hales is on the search for club members musically inclined. Those who can play any instrument—banjo, violin and all the rest of the list—please emerge from that modest obscurity and leave your name at the club offices or get in touch with George Hales.

ROMANCE OF PLASTER AND PLASTERING

Authors and illustrators and poets have for years woven a romantic glamor about the mason, the concrete worker and those brawny giants we have admired in posters and art magazines supposed to represent an idealized human being known as a steel erector. But somehow or other, heretofore, the public has never been given the opportunity of properly appraising the importance of the plasterer and of plaster in the building industry.

However, this dereliction has now been remedied as indicated by a bulletin issued by the Pacific Portland Cement Company, Los Angeles, Portland, Seattle and San Diego.

The Bulletin, a handsome specimen of printing, is appropriately titled: "A World Famous Builder Talks About the Importance of the Right Plaster." Then it quotes excerpts from the book "Skyscrapers," written by one of the world's master builders, Col. W. A. Starrett, Vice President of the Starrett Bros., Inc., New York. Col Starrett's tribute occupies the entire first page of the Bulletin.

STEEL INDUSTRY IS PROSPEROUS

Structural steel was never selling better in the history of the country, declared Charles F. Abbott, exectutive director, in his report to the Seventh Annual Convention of the American Institute of Steel Construction. Mr. Abbott pointed out that in 1921 some 1,188,600 tons of structural steel were sold in the United States, whereas this year the tonnage will probably exceed 3,955,880. This growth in the business has resulted despite the fact that there has been a decline of some nine per cent in all building operations during 1929.

Standard specifications and more rational use of structural steel promoted by the Institute has in part effected this great change. Furthermore there has been a tremendous increase in bridge building and aggressive work is being done toward promoting the use of steel in hangars, residences and dams. The time is now ripe, he said to "rationalize output."

CIVIL SERVICE EXAMINATION

The United States Civil Service Commission announces an open competitive examination for Junior Engineer (Structural Steel and Concrete).

Applications for junior engineer qualified in structural steel and concrete must be on file with the Civil Service Commission at Washington, D. C., not later than February 4, 1930. Detailed information may be obtained from your nearest postmaster.

FOX THEATER HEATING

James A. Nelson Co., Inc., 10th and Howard streets, San Francisco, installed the heating and ventilating plant in the new Fox theater, illustrated in this issue. This is one of the most exacting ventilating installations to be made in a San Francisco building in recent years and the company is receiving much praise for its work. The method of ventilation is different than that used in most theaters in that the air comes in from the ceiling and is forced out beneath the seats. This is known as the down draft system, and the system employed is just the opposite to that customarily used.

Another contract of considerable importance recently completed by the James A. Nelson Company, is the heating and ventilating of the new Capwell store, Oakland. This contract amounted to $175,000. The Nelson Company has recently been awarded a contract for heating and ventilating the new Shell Oil Building, San Francisco, at an approximate figure of $250,000.

ELECTRIC EQUIPMENT, FOX THEATER

All of the more important electrical equipment in the new Fox Theater, San Francisco, was supplied by the Westinghouse Electric & Manufacturing Company, the installation being made by the Alta Electric Company of San Francisco, electrical contractors on the job. The equipment included Westinghouse motors for the ventilation features which are said to be the most elaborate to be found in any playhouse on the Pacific Coast.

The lighting system, including the special effects produced on the stage, has been pronounced one of the most unusual of its type ever installed in a theater. Through the use of a gigantic Westinghouse Multi-Pre-Set switchboard, all lighting effects are set up in advance and controlled automatically, to be synchronized not only with the film presentation but with the entire program.

BOOK FOR ROOFING CONTRACTORS

"Erection Data and Specifications on Truscon Ferrobord Armco Ingot Iron Roofdeck," is the name of a new booklet just issued by Truscon Steel Company. It is for the practical roofer and roofing contractor who handles Ferrobord roofdeck. It tells him how to install this metal roofdeck quickly and economically to give a thoroughly modern, insulated, waterproof, firesafe and permanent roof.

OIL BURNING EQUIPMENT

E. A. Cornely, Inc., 1452 Bush street, San Francisco, for many years prominent in selling and installing oil burning equipment in homes, hotels and apartment houses, has added Enterprise fuel oil burners to his lines. Referring to acquisition of this line of high grade burners, Mr. Cornely says:

"We will be none the less active in handling Rayfield automatic burners, with which we have been prominently identified in the past, because for those types of installation where we have been recommending Rayfields nothing is their equal. This change simply means that we will handle two burners in the place of one.

"For installations where Rayfield is not adaptable Enterprise will enable us to supply exactly the equipment needed, and vice versa; thus at all times we can fill the needs of any construction or enterprise requiring oil burning equipment and meet those needs with the kind of equipment which will solve the heating problem most economically and efficiently."

The territory in which the Cornely company will act as distributors of Enterprise burners includes San Francisco, San Mateo and Marin Counties.

Enterprise burners are made in San Francisco, where a large plant is maintained.

DECORATIVE ART EXHIBITION

The third decorative art exhibition sponsored by the San Francisco Society of Women Artists and the Women's City Club will be held at the Women's City Club, 465 Post street, San Francisco, in April. Ceramics, frescoes, furniture, textiles, screens, hand tooled leather, metal work, sculpture, wall decorations and wood carvings by California artists will be shown. Any artist desiring to exhibit a complete unit of decoration in an alcove must submit plans or sketches to the Art Committee not later than January 1, 1930.

In order to develop additional units of decoration, artists are urged to collaborate with other artists who are working in different mediums from their own. Anyone desiring to supplement his exhibit in this way with work in another medium may receive information regarding the work of other artsts by communicating with Miss Rose Pauson, 2510 Jackson street, San Francisco. The art committee is composed of Rose Pauson, chairman; Anna Dodge Bailhache, Forrest L. Brissey, Junius Cravens, Helen Forbes, William I. Garren, Marian Hartwell, Florence Richardson, Rudolph Schaeffer, Jacques Schnier, Walter L. Steilberg and Ruth Cravath Wakefield.

OAKLAND ARCHITECTS HONORED

Messrs. Miller and Warnecke, architects of Oakland, received two prize awards for their East Oakland High School building, in the national competition conducted by the Common Brick Manufacturers' Association of America. The double honor comprised the grand prize and first award in the large school class, open to architects who have produced school buildings of common brick material during the year. Each prize amounted to $500; a total award for the Oakland men of $1000.

The contest was judged by J. Meyrick Colley of Louisville, Ky.; Howard Dwight Smith of Columbus, Ohio, and Link, Weber & Bowers, Pittsburgh, Pa. It involved plans and designs for schools of two classes and for a grand prize for the best production with consideration of the two classes. The Oakland architects submitted their plans and photographs of the East Oakland High School in the class having cubic content of 700,000 cubic feet or more. First prize in the smaller brick schools class also went to California architects, Dean & Dean of Sacramento, for their handling of the Clarksburg High School.

GOES TO SPOKANE

After many years in San Francisco James S. Cole, vice-president of Gladding, McBean & Co., has been transferred to Spokane to take permanent charge of a plant recently acquired by this company. Mr. Cole entered the employ of Gladding, McBean & Co. twenty-one years ago, and has served at the Lincoln plant in Placer County and in Los Angeles as well as in San Francisco. He has had a distinguished part in extending the use of terra-cotta as a building material over the entire Pacific coast. The acquisition of the American Fire Brick Co. of Spokane led to Mr. Cole's transfer to the Northwest.

INSULATION

Johns-Manville insulating board is described and pictured in a standard size brochure just published by the company that has been recognized as an authority on the subject of insulation for over seventy years. Architects will find much useful information in this booklet which may be had for the asking. Some of the interesting chapters have these headings: "Our Home Must be a Livable Home," "Proper Insulation is a Friend to Your Furnace," "Enjoy a Livable Cool House in Hot Weather," "Uses of J.-M. Insulating Board," and "Beautiful Interiors with J.-M. Insulating Board."

MANY CONTRACTORS GRANTED LICENSES

Approximately 12,500 licenses have been issued under the new law providing for the registration of contractors in California, according to James F. Collins, director of the Department of Professional and Vocational Standards. Letters have been sent out to all listed contractors who have not filed applications for a license, warning them to do so.

Only about a dozen complaints against contractors under the new law have been filed with the registrar. Most of these were in connection with contracts which originated prior to August 14, 1929, the day on which the new law became effective and hence could not be considered. Others involved matters which did not come within the scope or meaning of the statue. None of the complaints were submitted in the proper form, the law requiring that they be duly certified, which means that they shall be sworn to before a notary public. Persons making complaints are admonished to have them drawn in proper form with complete information. The small number of complaints filed has surprised the registrar. He interprets it as evidence of the strong moral effect of the legislation.

Many requests for interpretation of the law have been received by Registrar Collins. Some of these have been referred to the state attorney general for an opinion. In others, rulings have been made by the registrar. Following is the reply of the registrar to three questions put up to him by the Orange County Builders' Exchange:

"No 1. Is is necessary for a hardwood floor finisher to have a contractor's license when he agrees to do the work for a set price per square yard, but does not hire men and can be discharged by the original floor contractor?

"In this case it appears that the individual is rendering a personal service and it will be the policy of this office not to require a license. However, should this man take a contract in excess of $200, wherein he employed labor and became responsible for materials and payrolls and compensation insurance, he would be designated a contractor under the provisions of the law of this department.

"No. 2. Are partners liable if they have a contractor's license and then dissolve partnership? Should this license be cancelled and both take out another license?

"In the case of a dissolution of partnership, where the contractor's license is issued in the name of the partnership, the license would become inoperative and would be cancelled upon the statement of the dissolution by the partners. It would not be legal for either party to use same. There is no provision in the law whereby we can transfer a license. In order to use a partnership license it will be necessary for one of the partners to have the right to operate under the name in which the license is issued.

"No. 3. Is it necessary for a water well driller (contractor) to carry a contractor's license, or will he be exempt under Sec. 2, paragraph B?

"This question calls for one of the border line interpretaions in the law. It would appear that so long as a well driller performed work as set forth in the exemption clause, paragraph B of Sec. 2, of the contractor's registration law, he would not require a license. It would seem, however, that legitimate operators in this field should not stand on the technicality of the law, but should rather support the general intent by applying for a license."

Paragraph B of Sec. 2 referred to above, exempts "construction operations incidental to the construction and repair of irrigation and drainage ditches of regularly constituted irrigation districts, reclamation districts, or to the farming, dairying, agriculture, vitriculture, horticulture or stock or poultry raising."

Answering an inquiry regarding apparent conflict of state and local license laws, the Registrar wrote: "The state law cannot be considered to eliminate the necessity of contractors complying with local regulations that may be created in addition. Each recognized subdivision of the state of California has certain powers, among which are the right to regulate business within their community within constitutional limits. Every contractor in California will require a state license under the state. Any additional regulations that require him to comply therewith in the locality in which he works will place upon him legal obligations that might cause complaint for violations thereof to be made to the Registrar of Contractors affecting his state license thereby."

Many inquiries have been received by the Registrar as to whether persons building for themselves on their own property with the expectation of selling and not for personal occupancy are amenable to the law. In all his replies the Registrar has pointed out that it was the intent of the law that such builders should be licensed. This opinion has been reinforced by the following ruling given to the department by the state attorney general:

"If it appears from the facts of the case before you that an unlicensed builder has not in good faith built the house for his own use, but has built it for the purpose of speculation, then we believe that your department should hold the builder has unlawfully engaged in the contracting business.

"You also ask whether an unlicensed contractor would be permitted to file a lien, and if so, what his

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status would be before the court in suing upon the lien. Section 1667 of the Civil Code provides that a contract is not lawful which is contrary to an express provision of law. Since the contract is unlawful, it is our opinion that an unlicensed contractor may not claim the benefits of a lien afforded by Sec. 1187 of the Code of Civil Procedure."

A CENSUS OF SKYSCRAPERS

[Continued from page 72]

Commenting on the above statistics, prepared by the Thompson-Starrett Company, Charles W. Smith, executive secretary of the Building Owners and Managers Association of San Francisco, calls attention to a serious error in the San Francisco compilation. Mr. Smith's letter to the Thompson-Starrett Company follows:

"Our attention has been attracted to articles appearing in the *American City*, the *Literary Digest* and other magazines quoting from your 'Census of Skyscrapers.' In this tabulation you state that San Francisco has 45 buildings in the 10 to 20 story class and eight buildings of 21 stories or more. In another connection you make a statement that only six cities have 100 buildings or more over 10 stories high. We are not in position to judge as to the accuracy of your survey as regards other cities, but so far as San Francisco is concerned it is grossly erroneous. San Francisco, by actual count, has 105 buildings in the 10 to 20 story class and eight buildings in the 21 and over group. (This latter group does not include a 28-story building for which the steel is well nigh erected.) I might make the further statement that 19 of the buildings listed in the 10 to 20 story group are between 15 and 20 stories.

"Your statement with reference to the six cities having 100 or more buildings over 10 stories will have to be changed to seven inasmuch as San Francisco has 113 such buildings.

"I would be interested to know how this survey was conducted in San Francisco, and I would make the suggestion that if information was gathered from other cities in the same manner, it would be well to have the whole survey gone over to determine whether other cities may not have been erroneously classified.

"In view of the fact that our city has been shown up in an improper light in your survey, which will undoubtedly receive further wide publicity, we respectfully request that you send out a correction to publications that have received the release.

Yours very truly,

BUILDING OWNERS & MANAGERS ASSN.
(Signed) "Chas. W. Smith,
"Executive Secretary."

SMALL MESH LATH

Truscon Steel Company has published a new pamphlet describing small mesh diamond lath, a new product of Truscon. The lath is distinctive in that it saves plaster from waste and reduces erection costs, while serving as a positive reinforcement for all kinds of interior plastic construction.

"BETTER BUILDINGS"

The Clay Products Institute of California has published an attractive four page bulletin called "Better Buildings." Its contents is of interest to those who would use clay products in their buildings. Norman W. Kelch is editor.

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Johns-Manville Company, all principal Coast cities.
R. Guastavino Co., represented by Albert B. Mann, Engineer, 417 Crocker Bldg., San Francisco.
"Acousti-Celotex," Western Asbestos Magnesia Co., 25 South Park, San Francisco.
American Hair & Felt Co., 1615 Ditman St., Los Angeles.

AIR COMPRESSORS
Dayton, sold by Simonds Machinery Co., 816 Folsom Street, San Francisco; 520 East 4th Street, Los Angeles.

ACOUSTIC DEADENING
American Hair & Felt Co., 1615 Ditman St., Los Angeles.

ART METAL
Federal Ornamental Iron and Bronze Co., 16th St., and San Bruno Ave., San Francisco.
Michel & Pfeffer Iron Works, 1415 Harrison Street, San Francisco.

ARCHITECTURAL ENCAUSTIC TILE
Mangrum-Holbrook Co., Inc., 1235 Mission Street, San Francisco.

ARCHITECTURAL BRONZE
Elevator Supplies Company, Inc., Hoboken, N. J.; 186 Fifth Street, San Francisco; 1120 S. Hope Street, Los Angeles.
Zouri Drawn Metals Company, Chicago Heights, Illinois. (Zouri Company of California, 1208 Howard St., San Francisco.

ARCHITECTURAL TERRA COTTA
N. Clark & Sons, 116 Natoma Street, San Francisco.
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ASBESTOS MATERIALS
Johns-Manville, Inc., of California, 159 Montgomery St., San Francisco. Coast Factory at Pittsburg, Calif.
Western Asbestos Magnesia Company, 25 South Park, San Francisco.
Jones Bros. Asbestos Supply Co., Inc., 500 Second St., San Francisco.

ASPHALT ROOFING
El Rey Products Company, 1633 San Pedro St., Los Angeles; 960 Seventh St., San Francisco; 65 Columbia St., Seattle; 850 E. Taylor St., Portland.
The Paraffine Companies, Inc., San Francisco, Oakland, Los Angeles, Portland and Seattle.

AUTOMATIC THERMOSTAT CONTROLS
Majestic Electric Appliance Company, 590 Folsom Street, San Francisco.

BEDS—WALL—CONCEALED, ETC.
Marshall & Stearns Co., Phelan Bldg., San Francisco.

BLACKBOARDS
C. F. Weber & Co., 601 Mission St., San Francisco, Los Angeles and Reno, Nevada.

BOILERS
Kewanee Boiler Co., 635 Mission St., San Francisco.
Kewanee Water Supply System, Simonds Machinery Co., 816 Folsom St., San Francisco.
Consolidated Steel Corporation, 1200 N. Main St., Los Angeles.

BONDS FOR CONTRACTORS
Bonding Company of America, Kohl Bldg., San Francisco.
Globe Indemnity Co., 444 California St., San Francisco.
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Richmond Pressed Brick Co., Sharon Bldg., San Francisco. Plant at Richmond, Cal.
Cannon & Co., Sacramento; 517 Call Bldg., San Francisco; Builders Exchange Bldg., Oakland.

BRICK AND CEMENT COATING
The Paraffine Companies, Inc., 475 Brannan St., San Francisco.

BUILT-IN FURNITURE
Built-in Fixture Company, 2608 San Pablo Ave., near Dwight Way, Berkeley, and Hoosier Store, Pacific Bldg., San Francisco.

BUILDERS' HARDWARE
"Corbin" hardware, sold by Palace Hardware Company, 581 Market St., San Francisco.
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Kent-Costikyan, Inc., 485 Fifth Ave., New York City, with offices at 442 Post St., San Francisco and 816 South Figueroa St., Los Angeles.

CEMENT
Atlas White, manufactured by The Atlas Portland Cement Company, 25 Broadway, New York.
Hydro-plastic cement, manufactured by Southwestern Portland Cement Company, 356 S. Spring St., Los Angeles
Pacific Portland Cement Co., Hunter-Dulin Bldg., San Francisco, also Portland, Ore., Los Angeles and San Jose, Calif
Santa Cruz Portland Cement Company, Crocker Building, San Francisco.

CEMENT EXTERIOR WATERPROOF PAINT
Bass-Heuter Paint Company, San Francisco, Los Angeles, Portland, Seattle.
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United Materials Co., Sharon Bldg., San Francisco.

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Gunn, Carle & Co., Inc., 444 Market St., San Francisco.

CONCRETE REINFORCING
Soule Steel Company, Rialto Building, San Francisco.
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Clinton Welded Wire Fabric, Wickwire Spencer Steel Corporation, 144 Townsend St., San Francisco.
Pacific Coast Steel Company, Hunter-Dulin Bldg., San Francisco.

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K. E. Parker Company, Inc., 135 South Park, San Francisco.
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R. W. Littlefield, 337 17th Street, Oakland.
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Clinton Construction Company, 923 Folsom St., San Francisco.
Monson Bros., 475 Sixth St., San Francisco.
McLeran & Co., R., Hearst Bldg., San Francisco.
Chas. D. Vezey & Sons, Builders Exchange Bldg., Oakland.
Jacks & Irvine, Call Bldg., San Francisco.
Industrial Construction Company, 815 Bryant Street, San Francisco.
Anderson & Ringrose, 320 Market Street, San Francisco.
G. P. W. Jensen, 320 Market Street, San Francisco.

CORK TILE
Congoleum-Nairn, Inc., D. N. & E. Walter & Co., San Francisco, and Broadway Department Store, Los Angeles.
Van Fleet-Freear Company, 557 Howard St., San Francisco, and 420 S. Spring St., Los Angeles.

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The Paraffine Companies, Inc., San Francisco, Oakland, Los Angeles, Portland and Seattle.
Gunn, Carle & Co., 444 Market St., San Francisco.

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American Hair & Felt Co., 1615 Ditman St., Los Angeles.
Gunn, Carle & Co., 444 Market St., San Francisco.
"Torfoleum" distributed by Mailliard & Schmeidell, 203 California St., San Francisco.

DOOR CHECKS—CONCEALED
The Condor Company, 58 Sutter St., San Francisco.

DOOR CLOSERS
Norton door closer, sold by Nissen-Currier Co., 265 Minna St., San Francisco, and 302 Colo Bldg., Los Angeles.

DOOR HANGERS
Richards-Wilcox Mfg. Co., The Ewing-Lewis Co., Hunter-Dulin Bldg., San Francisco.

DOORS—FIREPROOF
Detroit Steel Products Company, 251 Kearny St., San Francisco.
Kinnear Mfg. Co., represented by Gunn, Carle & Co., 444 Market St., San Francisco.

DOORS—FREIGHT ELEVATOR
The Peelle Co., rooklyn, N. Y., represented by Persons Dwan & Co., 534 Sixth Street, San Francisco.

DOORS—HOLLOW METAL
Fire Protection Products Co., 1101 Sixteenth St., San Francisco.
Dahlstrom Metallic Door Co., Jamestown, N. Y., Coast plant, 3350 E. Slauson Ave., Los Angeles.
Forderer Cornice Works, Potrero Ave., San Francisco.

DOORS—ROLLING
Jas. G. Wilson Corporation, 605 Market St., San Francisco.
Kinnear rolling steel doors, sold by Gunn, Carle & Co., 444 Market St., San Francisco.

DRAIN PIPE AND FITTINGS
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DRAPERIES AND WINDOW SHADES
D. N. & E. Walter & Co., 562 Mission Street, San Francisco.

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Standard-Pacific Plumbing Fixtures, 349 Sutter St., San Francisco; 919 W. 7th St., Los Angeles; 1301 5th Ave., Seattle, Wash.; 48 5th St., Portland, Ore.

DUMB WAITERS
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Charles A. Langlais, 472 Tehama St., San Francisco.
H. C. Reed & Co., 389 Clementina St., San Francisco.

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Hunter & Hudson, 41 Sutter Street, San Francisco.
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Majestic Electric Appliance Company, 690 Folsom Street, San Francisco.
Sandoval Sales Company, 415 Jessie Street, San Francisco.
Weir Electric Appliance Company, 26th and Adeline Streets, Oakland.
Wesix electric air heaters, manufactured and distributed by Wesix Inc., 390 First street, San Francisco.

ELECTRIC REFRIGERATION
General Electric Refrigerator, George Belsey Company, Los Angeles, Distributor, Stores in Los Angeles, Pasadena, Glendale, Hollywood, Santa Monica and Monrovia; L. H. Bennett, Northern California Distributor, 2112 Broadway, Oakland; 318 Stockton St., San Francisco.
Wayne Home Equipment Company, Fort Wayne, Indiana, represented by Hill and Stoops, 4214 Broadway, Oakland, Calif.

ELECTRICAL SUPPLIES AND EQUIPMENT
The Frink Company, 10th Ave. at 24th St., New York; 77 O'Farrell St., San Francisco
Drendell Electrical & Mfg. Co., 1345 Howard St., San Francisco.
Frank Adam Electric Company, 340 Fremont St., San Francisco, and 1127 Wall Street, Los Angeles; general offices, St. Louis, Mo.
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ELECTROLIERS
Northern Street Lighting Company, 389 Clementina Street, San Francisco.

ELEVATOR ENTRANCE DOORS
Dahlstrom Metallic Door Company, Jamestown, N. Y., Pacific Coast plant, 3350 East Slauson Ave., Los Angeles.

ELEVATORS—PASSENGER AND FREIGHT
Otis Elevator Company, Stockton and North Point, San Francisco.
Spencer Elevator Company, 166 Seventh St., San Francisco.
Westinghouse Electric and Manufacturing Company, First National Bank Bldg., San Francisco, general offices and works, Pittsburgh, Pa.
Consolidated Steel Corporation, 1200 N. Main St., Los Angeles.

ELEVATOR SIGNALS, DOOR EQUIPMENT
Elevator Supplies Co., Inc., Hoboken, N. J.; San Francisco office, 186 Fifth St.
The Peelle Co., Brooklyn, N. Y., represented by Persons Dwan & Co., 534 Sixth Street, San Francisco.
Richards-Wilcox Mfg. Co., represented by Ewing-Lewis Company, Hunter-Dulin Bldg., San Francisco; 408 S. Spring Street, Los Angeles.

ENAMELS
Gold Seal Enamel—Bass-Heuter Paint Company, San Francisco, Los Angeles, Portland, Seattle.

EXIT DEVICES
Von Duprin, manufactured by Vonnegut Hardware Company, Indianapolis; sold by D. A. Pancoast Co., 605 Market St., San Francisco.

FENCES—WIRE AND IRON
Michel & Pfeffer Iron Works, Harrison and Tenth Sts., San Francisco.

FIRE EXTINGUGISHING APPARATUS
"Lux" System, represented by Hough and Egbert, Inc., 519 Robert Dollar Building, San Francisco.

FIRE DETECTING APPARATUS
"Derby" and "Selex" Systems, represented by Hough and Egbert, Inc., 519 Robert Dollar Building, San Francisco.

FIRE ESCAPES
Michel & Pfeffer Iron Works, 1415 Harrison St., San Francisco.
Palm Iron & Bridge Works, Sacramento.
Western Iron Works, 141 Beale St., San Francisco.

FIRE SPRINKLERS—AUTOMATIC
Fire Protection Engineering Co., 407 Exchange Building, 369 Pine Street, San Francisco.
Grinnell Company of the Pacific, Fifth and Brannan Sts., San Francisco.

FIXTURES—BANK, OFFICE, STORE, ETC.
Home Manufacturing Company, 552 Brannan St., San Francisco.
Mullen Manufacturing Co., 64 Rausch St., San Francisco.
Pacific Manufacturing Company, San Francisco, Los Angeles, Oakland and Santa Clara.
The Fink & Schindler Co., 228 13th St., San Francisco.

FLOORS—CORK, LINOLEUM, ETC.
Congoleum-Nairn, Inc., D. N. & E. Walter & Co., San Francisco, and Broadway Department Store, Los Angeles.
The Parafine Companies, Inc., San Francisco, Los Angeles, Oakland, Portland, Seattle.

FLOOR HARDENER
Master Builders Company, Mills Bldg., San Francisco; 426 So. Spring Street, Los Angeles; also Seattle, Portland and Spokane.

FLOORS—REDWOOD BLOCK
Redwood Block Floor Company, Bryant at 18th St., San Francisco.

FLOOR CLIPS
Bull Dog Floor Clip Co., 557 Market St., San Francisco and Hibernian Bldg., Los Angeles.

FLOORS—HARDWOOD
Inlaid Floor Company, 600 Alameda Street, San Francisco and 4067 Watts Street, Emeryville, Oakland.
"Perfection" Brand Oak Flooring, Arkansas Oak Flooring Co., Pine Bluff, Arkansas.
J. E. Higgins Lumber Company, San Francisco.
White Brothers, 5th and Brannan streets, San Francisco; 500 High Street, Oakland.
Cellized Oak Flooring, Inc., Memphis, Tenn. Represented by Geo. H. Brown Hardwood Company, Oakland.

FREIGHT ELEVATOR DOORS
The Peelle Co., Brooklyn, N. Y., represented by Persons Dwan & Co., 534 Sixth Street, San Francisco.

FURNITURE—OFFICE, SCHOOL, CHURCH, THEATER
The Fink & Schindler Co., Inc., 218-68 13th St., San Francisco.
Home Mfg. Co., 552 Brannan Street, San Francisco.
Mullen Mfg. Co., 64 Rausch Street, San Francisco.
C. F. Weber & Co., San Francisco, Los Angeles, and Phoenix, Ariz.

GENERAL CONTRACTORS
Spivock & Spivock, Hobart Building, San Francisco.

GLASS
Cobbledick-Kibbe Glass Co., 666 Howard St., San Francisco.

GRAVEL AND SAND
Del Monte White Sand, Del Monte Properties Co., Crocker Bldg., San Francisco.

GYMNASIUM EQUIPMENT—LOCKERS, ETC.
Ellery Arms Co., 583 Market St., San Francisco.

HANGERS—RELIANCE—
Graham & Norton Company, 213 Minna Street, San Francisco.

HARDWARE
Vonnegut hardware, sold by D. A. Pancoast Company, 605 Market St., San Francisco.
Palace Hardware Company, 581 Market St., San Francisco.
Richards-Wilcox Mfg. Co., represented by Ewing-Lewis Company, Hunter-Dulin Bldg., San Francisco; 408 S. Spring Street, Los Angeles.

HARDWOOD LUMBER
J. E. Higgins Lumber Co., San Francisco.
G. H. Brown Hardwood Lumber Co., 47th Ave. at E. 12th Street, Oakland.
White Brothers, 5th and Brannan streets, San Francisco; 500 High Street, Oakland.

HEATING—COAL FURNACE
Montague Range & Furnace Company, 376 Sixth St., San Francisco.

HEATERS ELECTRIC
Apex Air and Water Electric Heaters, Sandoval Sales Company, 115 Jessie Street, San Francisco.
Majestic Electric Appliance Co. (bathroom heater), 590 Folsom St., San Francisco.
Weir Electric Appliance Company, 26th and Adeline Streets, Oakland.

HEATING—ELECTRIC
Wesix electric air heaters, manufactured and distributed by Wesix Inc., 390 First Street, San Francisco.

HEATING—STEAM
Warren Webster & Company, Sharon Bldg., San Francisco, and 306 Crocker St., Los Angeles.

HEATING CONTRACTORS
Alex Coleman, 706 Ellis St., San Francisco.
Gilley-Schmid Company, 198 Otis St., San Francisco.
Hateley & Hateley, Mitau Bldg., Sacramento.
Mangrum & Otter, 827-831 Mission St., San Francisco.
W. H. Picard, 5656 College Ave., Oakland.
Luppen & Hawley, 3126-J St., Sacramento.
William F. Wilson Co., 240 Fourth St., San Francisco.
James A. Nelson, Inc., Howard and Tenth Sts., San Francisco.
Scott Company, 243 Minna St., San Francisco.
Geo. A. Schuster, 4712 Grove St., Oakland.
Herman Lawson, 465 Tehama Street, San Francisco.

HEATING EQUIPMENT
E. A. Cornely, Inc., 1452 Bush Street, San Francisco.
Illinois Engineering Co., 417 Market St., San Francisco.
Warren Webster & Company, Sharon Bldg., San Francisco, and 306 Crocker St., Los Angeles.
James A. Nelson, Inc., Howard and Tenth Sts., San Francisco.
B. F. Sturtevant Co., Monadnock Bldg., San Francisco; Los Angeles, Portland, Seattle.

HOLLOW BUILDING TILE (Burned Clay)
Cannon & Co., plant at Sacramento; Call Bldg., San Francisco.
N. Clark & Sons, 112-116 Natoma Street, San Francisco; works, West Alameda, California.
Gladding, McBean & Co., 660 Market St., San Francisco; 621 S. Hope St., Los Angeles; 1500 First Ave. South, Seattle; 454 Everett St., Portland; 15th and Dock Sts., Tacoma, and 22nd and Market Sts., Oakland.
W. S. Dickey Clay Mfg. Co., San Francisco and Oakland.

HOSE
The American Rubber Mfg. Co., Park Ave. and Watts St., Oakland, Calif.

HOSE RACKS AND REELS
American Rubber Mfg. Co., San Francisco, Oakland, Los Angeles and Portland, Ore.

HOSPITAL SIGNAL SYSTEMS
Chicago Signal Co., represented by Garnett Young & Co., 390 Fourth St., San Francisco.

INCINERATORS
The Goder, sold by M. E. Hammond, Mezzanine, Pacific Bldg., San Francisco.
Kewanee Boiler Co., 635 Mission Street, San Francisco.

INDUSTRIAL LIGHTING EQUIPMENT
Westinghouse Electric and Mfg. Co., East Pittsburgh, Pa., and First National Bank Bldg., San Francisco.

INSPECTIONS AND TESTS
Robert W. Hunt Co., 251 Kearny Street, San Francisco.

INSULATION
"Insulex" manufactured by Pacific Portland Cement Co., Hunter-Dulin Bldg., San Francisco, & 1200 Chapman Bldg., Los Angeles.
Western Asbestos Magnesia Co., 25 South Park, San Francisco.
American Hair and Felt Company, 1615 N. Ditman St., Los Angeles.
Gunn, Carle & Co., 444 Market St., San Francisco.
"Torfoleum" distributed by Mailliard & Schmeidell, 203 California St., San Francisco.

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INSULATED WIRE
Hazard Insulated Wire Works, Wilkes-Barre, Pa., Russ Building, San Francisco, Seattle and Los Angeles.

KITCHEN EQUIPMENT
General Electric Refrigerator, L. H. Bennett, Rialto Building, San Francisco, and the George Belsey Company, Architects Building, Los Angeles.
James A. Nelson, Inc., Howard and Tenth Sts., San Francisco.
Mangrum Holbrook Company, 1235 Mission St., San Francisco.

LACQUERS
The Paraffine Companies, Inc., San Francisco, Los Angeles, Oakland, Portland and Seattle.
Bass-Hueter Paint Company, San Francisco, and all principal Coast cities.

LATHING MATERIAL—WIRE, METAL ETC.
Genfire Steel Co., Sheldon Bldg., San Francisco; Builders' Exchange, Oakland.
Truscon Steel Co., Sharon Building, San Francisco.
Soule Steel Company, Rialto Building, San Francisco, and Los Angeles.

LAUNDRY MACHINERY AND EQUIPMENT
American Laundry Machinery Company, 921 Howard Street, San Francisco.
Troy Laundry Mach'y Co., Ltd., East Moline, Ill., and 951 Mission St., San Francisco.
Gunn, Carle & Co., 444 Market St., San Francisco.

LIGHTING FIXTURES, OUTLETS, ETC.
Westinghouse Electric and Mfg. Co., First National Bank Bldg., San Francisco; general offices and works, Pittsburgh, Pa.
The Frink Company, 369 Lexington Avenue, New York, and principal Coast cities.
Sterling Bronze Co., Inc., 18 East 40th St., New York.

LIME PRODUCTS
United States Lime Products Corp., San Francisco, Los Angeles, Portland, Ore.

LINOLEUM
William Volker & Co., 631 Howard St., San Francisco, and 2301 E. 7th St., Los Angeles.
The Paraffine Companies, factory in Oakland; office, 475 Brannan Street, San Francisco.
W. & J. Sloane, 216 Sutter Street, San Francisco.
Van Fleet- Freear Company, 557 Howard St., San Francisco, and 3307 Wilshire Boulevard, Los Angeles.
Bonded Floors—Sealex Linoleum and Tile manufactured by Congoleum-Nairn, Inc., D. N. & E. Walter & Co., San Francisco; Broadway Department Store, Los Angeles.

LUMBER
G. H. Brown Hardwood Company, 1044 47th Ave., Oakland.
Pacific Mfg. Co., San Francisco, Oakland, Los Angeles and Santa Clara.
Santa Fe Lumber Co., 16 California St., San Francisco.
J. E. Higgins Lumber Company, 423 Sixth St., San Francisco.
Sunset Lumber Company, First and Oak Sts., Oakland.
White Brothers, 5th and Brannan Sts., San Francisco, and 500 High St., Oakland.
E. K. Wood Lumber Co., Frederick and King streets, Oakland.
Port Orford Cedar Products Co., Marshfield, Oregon, represented by Dent & Russell, Inc., Porter Bldg., Portland, Oregon.

MAIL CHUTES
Cutler Mail Chute Co., represented by Price Building Specialties Co., 683 Howard St., San Francisco and Continental Building Specialties Co., 1216 Hibernian Bldg., Los Angeles.

MARBLE
American Marble Company, 25 Columbus Square, San Francisco.
Clervi Marble Company and Mosaic Co., 1721 San Bruno Avenue, San Francisco.
Ray Cook Marble Company, foot of Powell St., Oakland.
Joseph Musto Sons-Keenan Co., 535 N. Point St., San Francisco.
Vermont Marble Co., Coast branches, San Francisco, Los Angeles and Tacoma.
Tompkins-Kiel Marble Company, 505 Fifth Ave., New York; also Chicago, Philadelphia and San Francisco.

MASONRY ANCHORS
Steelform Contracting Company, Monadnock Bldg., San Francisco; Edwards & Wildey Bldg., Los Angeles.

METAL COVERED DOORS
Fire Protection Products Co., 1101 Sixteenth St., San Francisco.
Forderer Cornice Works, Potrero Ave., San Francisco.

MILLWORK
The Fink & Schindler Co., Inc., 218-68 13th St., San Francisco.
Pacific Mfg. Co., San Francisco, Los Angeles, Oakland and Santa Clara.
Sunset Lumber Company, First and Oak Streets, Oakland.
Lannom Bros. Mfg. Co., Fifth and Magnolia Sts., Oakland.
Atkinson Mill & Mfg. Co., 2985 Chapman Avenue, Oakland.
Chicago Lumber Company of Washington, 66th and 69th Aves and Spencer Street, Oakland.
E. K. Wood Lumber Co., Frederick and King streets, Oakland.

MONEL METAL
"Inco" brand, distributed on the Pacific Coast by the Pacific Foundry Company, Harrison and 18th Streets, San Francisco, and Eagle Brass Foundry, Seattle, Wash.

OIL BURNERS
Rayfield Oil Burner, Coast Distributors, E. A. Cornely, Inc., 1452 Bush Street, San Francisco.
S. T. Johnson Company, 1337 Mission St., San Francisco; 940 Arlington St., Oakland; 1729 Front St., Sacramento, and 230 N. Sutter St., Stockton.
Vaughn-G. E. Witt Co., 4224-28 Hollis Street, Emeryville, Oakland.
W. S. Ray Mfg. Company, 170 Sutter St., San Francisco, and 2206 San Pablo Ave., Oakland.
Coen Company, 112 Market Street, San Francisco.
Wayne Home Equipment Company, Fort Wayne, Indiana, represented by Hill and Stoops, 4214 Broadway, Oakland, Calif.

ORNAMENTAL IRON AND BRONZE
Federal Ornamental Iron and Bronze Co., 16th St. and San Bruno Ave., San Francisco.
Michel & Pfeffer Iron Works, 1415 Harrison St., San Francisco.
Palm Iron & Bridge Works, Sacramento.

PAINTING, DECORATING, ETC.
The Tormey Co., 681 Geary St., San Francisco.
A. Quandt & Sons, 374 Guerrero Street, San Francisco.

PAINTS, OILS, ETC.
The Paraffine Companies, Inc., San Francisco, Los Angeles, Oakland, Portland and Seattle.
Bass-Hueter Paint Company, San Francisco, Los Angeles, Portland, Seattle.
General Paint Company, Los Angeles, San Francisco, Oakland, Seattle, Spokane and Portland.

PANEL BOARDS
Drendell Electric & Mfg. Co., 1760 Howard St., San Francisco.
Frank Adam Electric Company, 340 Fremont St., San Francisco, and 1127 Wall Street, Los Angeles; general offices, St. Louis, Mo.
Westinghouse Elec. and Mfg. Co., First National Bank Bldg., San Francisco; general offices and works, Pittsburgh, Pa.

PANELS—HARDWOOD
White Brothers, 5th and Brannan Sts., San Francisco, and 500 High St., Oakland.

PANIC EXIT DEVICES
Von Duprin, manufactured by Vonnegut Hardware Company, Indianapolis; sold by D. A. Pancoast Co., 605 Market Street, San Francisco.

PARTITIONS—MOVABLE OFFICE
Dahlstrom Metallic Door Company, Jamestown, N. Y., Coast plant, 3350 E. Slauson Ave., Los Angeles
Pacific Mfg. Co., Monadnock Building, San Francisco; factory at Santa Clara.

PIPE—WROUGHT IRON
A. M. Byers Co., Pittsburgh, Pa., and Financial Center Bldg., Los Angeles.
Reading Iron Co., Reading, Pa., and Balboa Bldg., San Francisco.

PLASTER
"Empire," manufactured by Pacific Portland Cement Co., Hunter-Dulin Building, San Francisco, Portland, San Jose and Los Angeles.

PLASTER BASE
"Celotex," Western Asbestos Magnesia Co., 25 South Park, San Francisco.

PLASTER REINFORCING
Wickwire-Spencer Steel Company, Inc., 144 Townsend St., San Francisco.

PLASTERING CONTRACTORS
A. Knowles, Call Bldg., San Francisco.
MacGruer & Company, 266 Tehama Street, San Francisco, and Pacific Mutual Bldg., Los Angeles.

PLUMBING CONTRACTORS
Alex Coleman, 706 Ellis St., San Francisco.
Gilley-Schmid Company, 198 Otis St., San Francisco.
Hateley & Hateley, 1710 Tenth St., Sacramento.
Herman Lawson, 465 Tehama Street, San Francisco.
Luppen & Hawley, 906 7th St., Sacramento.
Scott Co., Inc., 243 Minna St., San Francisco.
Wm. F. Wilson Co., 240 Fourth Street, San Francisco.
Geo. A. Schuster, 4712 Grove St., Oakland.
W. H. Picard, 5656 College Ave., Oakland.

PLUMBING SUPPLY HOUSES
H. Mueller Manufacturing Company, 1072-76 Howard St., San Francisco.
Standard Pacific Fixtures, 349 Sutter St., San Francisco.
Clarence Drucker, manufacturers' representative, 307 Minna St., San Francisco.

PLYWOOD
Port Orford Cedar Products Co., Marshfield, Oregon, represented by Dent & Russell, Inc., Porter Bldg., Portland, Oregon.

PRESSED STEEL
Berger Manufacturing Co., 1120 Mission St., San Francisco.

PRESSURE REGULATORS
Vaughn-G. E. Witt Co., 4224-28 Hollis Street, Emeryville, Oakland.

PUMPING MACHINERY
Simonds Machinery Co., 816 Folsom Street, San Francisco; 520 East 4th Street, Los Angeles.

PUMPS—HAND OR POWER
Ocean Shore Iron Works, 558 Eighth St., San Francisco.
S. F. Bowser & Co., Inc., 425 Brannan St., San Francisco.

REFRIGERATORS
"General Electric," sold by the George Belsey Company, Architects' Building, Los Angeles; L. H. Bennett, Rialto Bldg., San Francisco.

REINFORCING STEEL
Soule Steel Company, Inc., Rialto Bldg., San Francisco, and Los Angeles.
Gunn, Carle & Co., Inc., 444 Market St., San Francisco.
Pacific Coast Steel Co., Hunter-Dulin Bldg., San Francisco.
United Alloy Steel Corporation, Canton, Ohio; Western Sales Office, Santa Fe Bldg., San Francisco.
Truscon Steel Company, Sharon Bldg., San Francisco.

ROOF MATERIALS
El Rey Products Co., 1633 San Pablo St., Los Angeles; 960 7th St., San Francisco; 65 Columbia St., Seattle; 850 E. Taylor St., Portland.
Kraftile Company, office and factory at Niles; 55 New Montgomery Street, San Francisco.
"Malthoid" and "Ruberoid," also "Pabco" 10 and 20 year roofs, manufactured by the Paraffine Companies, Inc., San Francisco, Los Angeles, Oakland, Portland and Seattle.
Gladding, McBean & Co., 660 Market St., San Francisco; 621 S. Hope St., Los Angeles; 1500 First Ave. South, Seattle; 454 Everett St., Portland; 15th and Dock Sts., Tacoma, and 22nd and Market Sts., Oakland.
N. Clark & Sons, 112-116 Natoma Street, San Francisco; works, West Alameda, California.
W. S. Dickey Clay Mfg. Co., 604 Mission St., San Francisco.
Jones Brothers Asbestos Supply Co., 500 Second St., San Francisco.
Johns-Manville Corporation of California, 159 New Montgomery St., San Francisco.
United Materials Co., Sharon Building, San Francisco.

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ROOF MATERIALS—(Continued)
Western Asbestos Magnesia Company, 25 South Park, San Francisco.
"Torfoleum" Insulation manufactured by Mailliard & Schmiedel, 203 California St., San Francisco.
Pioneer Paper Co., 5500 South Alameda, Los Angeles; Hearst Bldg., San Francisco; offices in Portland, Seattle, Salt Lake City, Spokane and Denver.

RUGS AND CARPETS—IMPORTED
Kent-Costikyan, Inc., 485 Fifth Ave., New York City, with offices at 442 Post St., San Francisco and 816 South Figueroa St., Los Angeles.
W. & J. Sloane, 216 Sutter St., San Francisco.

SAFETY TREADS
Price-Teltz Company, 683 Howard St., San Francisco.
Gunn, Carle & Co., 444 Market St., San Francisco.

SASH CHAINS
American Chain Company, Inc., Bridgeport, Conn., and 425 Second St., San Francisco.
The Smith & Egge Mfg. Co., P. O. Box 1040, Bridgeport, Conn.; 506 American Bank Bldg., Los Angeles.

SCAFFOLDING FOR CONTRACTORS
Steelform Contracting Company, Monadnock Bldg., San Francisco; Edwards & Wildey Bldg., Los Angeles.

SEATING—SCHOOL, THEATER, CHURCH
Home Manufacturing Company, Inc., 552 Brannan St., San Francisco.
C. F. Weber & Co., San Francisco, Los Angeles, Phoenix, Ariz.; Reno, Nevada.

SELF-RELEASING FIRE EXIT DEVICES
Von Duprin, manufactured by Vonnegut Hardware Company, Indianapolis; sold by D. A. Pancoast Co., 605 Market St., San Francisco.

SHADES
William Volker & Co., 631 Howard Street, San Francisco; 2301 East 7th Street, Los Angeles.

SHEATHING AND SOUND DEADENING
Western Asbestos Magnesia Co., 25 South Park, San Francisco.

SHEET METAL WORKS
Forderer Cornice Works, Potrero Ave., San Francisco.

SHOW CASES
Home Manufacturing Company, Inc., 552 Brannan St., San Francisco.
Mullen Manufacturing Company, 64 Rausch St., San Francisco.

SOUND ABSORBING TREATMENT
Johns-Manville Corporation, 159 New Montgomery St., San Francisco.

SIGNALING & PROTECTIVE SYSTEMS
Garnett, Young & Co., 390 Fourth St., San Francisco.

STEEL FABRIC
Wickwire - Spencer Steel Corporation, 144 Townsend St., San Francisco.
Soule Steel Company, Rialto Bldg., San Francisco, and Los Angeles.

STEEL FORMS
Steelform Contracting Company, Monadnock Bldg., San Francisco; Edwards & Wildey Bldg., Los Angeles.

STEEL TANKS
Ocean Shore Iron Works, 55 Eighth St., San Francisco.

STEEL LUMBER
Genfire Steel Co., Sheldon Bldg., San Francisco; Builders' Exchange, Oakland.

STEEL SASH
Bayley-Springfield solid steel sash, sold by Gunn, Carle & Co., 444 Market St., San Francisco.
"Fenestra" Solid Steel Sash, manufactured by Detroit Steel Products Co., factory sales office, 526 Hunter-Dulin Bldg., San Francisco.
Berger Manufacturing Co., 1120 Mission St., San Francisco.
Michel & Pfeffer Iron Works, 1415 Harrison St., San Francisco.
Truscon Steel Company, 74 New Montgomery St., San Francisco.
W. C. Lea, 653 South Clarence St., Los Angeles.

STEEL—STRUCTURAL
Bethelhem Steel Company, Pittsburg, Pa., Matson Building, San Francisco; Pacific Building, Los Angeles; L. C. Smith Building, Seattle; American Bank Building, Portland, Oregon.
Golden Gate Iron Works, 1541 Howard St., San Francisco.
Judson Pacific Company, C. F. Weber Bldg., Mission and Second Sts., San Francisco; shops, San Francisco and Oakland.
McClintic - Marshall Company, 621 Florida Street, San Francisco.
Herrick Iron Works, 18th and Campbell Sts., Oakland.
Pacific Coast Eng. Co., foot 14th St., Oakland
Pacific Coast Steel Co., Hunter-Dulin Bldg., San Francisco.
Palm Iron & Bridge Works, Sacramento.
Schrader Iron Works, Inc., 1247 Harrison St., San Francisco.
Western Iron Works, 141 Beale Street, San Francisco.
Consolidated Steel Corporation, 1200 N. Main St., Los Angeles.

STONE
Indiana Limestone Company, Tribune Tower, Chicago, Ill., and Crocker First National Bank Bldg., San Francisco.

STORE FRONTS
Zouri Drawn Metals Company, Chicago Heights, Illinois. (Zouri Company of California, 1208 Howard St., San Francisco.)

STORE FURNITURE
Berger Manufacturing Co., 1120 Mission St., San Francisco.

STREET LIGHTING EQUIPMENT
Westinghouse Electric and Mfg. Co., East Pittsburgh, Pa., and First National Bank Bldg., San Francisco.

STRUCTURAL STEEL SHAPES
Bethlehem Steel Company, Matson Building, San Francisco; Pacific Finance Building, Los Angeles; L. C. Smith Building, Seattle; American Bank Building, Portland, Oregon.

SWITCHES AND SWITCHBOARDS
Drendell Electrical & Mfg. Co., 1345 Howard St., San Francisco.
Westinghouse Elec. & Mfg. Co., First Nat. Bank Bldg., San Francisco; general offices and Works, Pittsburgh, Pa.

TELEPHONES—AUTOMATIC, PRIVATE
Automatic Electric Inc., Chicago, Ill.; 1112 Pacific Finance Bldg., Los Angeles.

THERMOSTATS FOR HEAT REGULATION
Johnson Service, Milwaukee, Wis.; Rialto Building, San Francisco.

TERRA COTTA
N. Clark & Sons, 116 Natoma Street, San Francisco.
National Terra Cotta Society, 230 Park Avenue, New York, N. Y.

TILE—BATHROOM AND KITCHEN
Porstelain Tile Company, Ltd., 557 Market St., San Francisco, and 410 Madison St., Oakland.

TILE—RUBBER, CLAY, CORK ETC.
Rossman Corporation of California, 49 Geary Street, San Francisco, and Architects' Bldg., Los Angeles.
N. Clark & Sons, 112-116 Natoma Street, San Francisco; works, West Alameda, Cal.
Congoleum-Nairn, Inc., D. N. & E. Walter & Co., San Francisco, and Broadway Department Store, Los Angeles
Gladding, McBean & Co., 660 Market St., San Francisco; 621 S. Hope St., Los Angeles; 1500 First Ave. South, Seattle; 454 Everett St., Portland; 15th and Dock Sts., Tacoma, and 22nd and Market Sts., Oakland.
Kraftile Company, factory at Niles; 55 New Montgomery Street, San Francisco.
Mangrum-Holbrook, Inc., 1235 Mission St., San Francisco.
United States Rubber Co., 300 Second St., San Francisco, and 923 Los Angeles St., Los Angeles, Calif.
Armstrong Cork Tile, sold by Van Fleet-Freear Co., 557 Howard Street, San Francisco; 3307 Wilshire Boulevard, Los Angeles.

UNDERFLOOR DUCT SYSTEM
Johns-Manville Corporation, 159 New Montgomery St., San Francisco.

VALVES—PIPES AND FITTINGS
Clarence Drucker, Manufacturers' Agent, 307 Minna Street, San Francisco.
Grinnell Co., Fifth and Brannan Sts., San Francisco.
Mueller Company, 1072 Howard Street, San Francisco.
Sloan Valve Company, Chicago; E. C. Whalen, 954 Western Pacific Bldg., Los Angeles; W. J. Driscoll, 482 Monadnock Bldg., San Francisco; E. C. Fallein, U. S. National Bank Bldg., Denver; S. D. Cochran, L. C. Smith Bldg., Seattle, Wash.

VARNISHES
Bass-Hueter Paint Company, San Francisco, Los Angeles, Portland, Seattle.
The Paraffine Companies, Inc., San Francisco, Los Angeles, Portland and Seattle.

VENETIAN BLINDS
C. F. Weber & Company, 601 Mission St., San Francisco.

VENTILATING EQUIPMENT
B. F. Sturtevant Co., Monadnock Bldg., San Francisco; Los Angeles, Portland and Seattle.

VENTILATORS
"The Panelouvre," sold by M. E. Hammond, Pacific Bldg., San Francisco.

VITREOUS CHINAWARE
Standard - Pacific Plumbing Fixtures, 349 Sutter St., San Francisco; 919 W. Seventh St., Los Angeles; 1301 Fifth Ave., Seattle Wash.; 48 Fifth St., Portland, Ore.

WATERPROOF CEMENT
Victor Hydro-plastic waterproof cement, manufactured by Southwestern Portland Cement Co., 356 S. Spring St., Los Angeles.

WALL BEDS, SEATS, ETC. (See Beds).

WIRING SYSTEM
General Electric Company, San Francisco and all principal Coast cities.

WATER COOLERS
General Electric Refrigerator, L. H. Bennett, Rialto Building, San Francisco, and the George Belsey Company, Architects Building, Los Angeles.

WATER HEATERS
Apex Electric Hot Water Heaters, distributed by Sandoval Sales Co., 115 Jessie St., San Francisco.
Pittsburgh Water Heater Co. (gas), 478 Sutter St., San Francisco.
Ruud Heater Co. (gas), 245 Mason St., San Francisco.
Wesix Heater Company, Rialto Building, San Francisco.

WATERPROOFING
Johns-Manville Corporation, 159 New Montgomery St., San Francisco.
Master Builders Company, Mills Bldg., San Francisco; 426 So. Spring Street, Los Angeles,(also Seattle, Portland and Spokane.
The Paraffine Companies, Inc., San Francisco, Los Angeles, Oakland, Portland, Seattle.
Gunn, Carle & Co., 444 Market St., San Francisco.

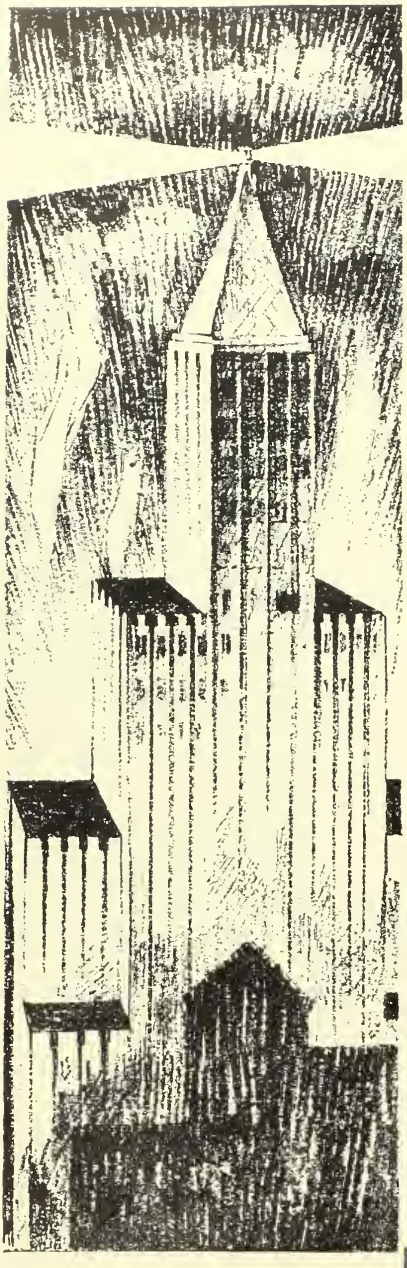
WATER SOFTENERS AND FILTERS
The Permutit Company, 440 Fourth Ave., New York City, and Balboa Bldg., San Francisco.

WATER SUPPLY SYSTEMS
Kewanee Water Supply System—Simonds Machinery Co., agents, 816 Folsom St., San Francisco; 520 East Fourth Street, Los Angeles.

WINDOW SHADES
William Volker & Co., 631 Howard Street, San Francisco; 2301 East 7th Street, Los Angeles.
W. & J. Sloane, 216 Sutter St., San Francisco.
D. N. & E. Walter & Co., 562 Mission St., San Francisco.

WINDOWS—STEEL REVERSIBLE, ETC.
Campbell and Voigtmann Metal Windows, distributed by Fire Protection Products Company, 1101 Sixteenth St., San Francisco.
Crittall Casement Window Company, Detroit, Mich. Badt-Falk & Co., 74 Montgomery Street, San Francisco. F. T. Crowe & Co., 216 Walker Bldg., Seattle. R. H. Hoskins, 510 Hyde Bldg., Spokane. McCraken-Ripley Co., 61 Albina Avenue, Portland. F. T. Crowe & Co., 1177 Dock Street, Tacoma, Wash. Crittall Casement Window Co., 504 Union Insurance Bldg., Los Angeles.
Hauser Window Co., 1362 Harrison St., San Francisco.
Detroit Steel Products Co., Detroit, Mich.; Hunter-Dulin Building, San Francisco and Pershing Square Building, Los Angeles.
W. C. Lea, 653 South Clarence St., Los Angeles.

WIRING SYSTEM
Westinghouse Electric and Manufacturing Company, First National Bank Bldg., San Francisco; general offices and works, Pittsburgh, Pa.



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Here's a wonderful material for roofs of distinctive beauty and real protection! Tapered, thick-butted clear wood shingles in random widths ...coated with asphalt and surfaced with non-fading crushed rock. Samples on request. ' ' '

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Estimator's Guide

Giving Cost of Building Materials, Wage Scale, Etc.

Amounts quoted are figuring prices and are made up from average quotations furnished by material houses to three leading contracting firms of San Francisco.

All prices and wages quoted are for San Francisco and the Bay District. There may be slight fluctuation of prices in the interior and southern part of the state. Freight cartage, at least, must be added in figuring country work.

Overtime in wage scale should be credited with time and a half, Sunday and holidays double.

Bond—1½% amount of contract.

Brickwork—
Common, $33 to $40 per 1000 laid, (according to class of work).
Face, $100 to $125 per 1000 laid, (according to class of work).
Brick Steps, using pressed brick, $1.10 lin. ft.
Brick Walls, using pressed brick on edge, 75c sq. ft. (Foundations extra.)
Brick Veneer on frame buildings, $1.00 sq. ft.
Common, f.o.b. cars, $14.50 plus cartage.
Face, f.o.b. cars, $55.00 per 1000, carload lots.

HOLLOW TILE FIREPROOFING (f.o.b. cars in carload lots).

3x12x12 in.	$ 96.00 per M
4x12x12 in.	108.00 per M
6x12x12 in.	156.00 per M
8x12x12 in.	255.00 per M

HOLLOW BUILDING TILE (f.o.b. cars in carload lots).

8x12x5½	$108.00
6x12x5½	74.00

Composition Floors — 18c to 30c per sq. ft. In large quantities, 18c per sq. ft. laid.
Rubber Tile—65c per sq. ft.

Terazzo Floors—50c to 60c per sq. ft.
Terazzo Steps—$1.50 per lin. ft.
Mosaic Floors—80c per sq. ft.

Concrete Work (material at San Francisco bunkers) — Quotations below 2000 lbs. to the ton.

No. 3 rock, at bunkers	$1.40 per ton
No. 4 rock, at bunkers	1.40 per ton
Eliott pea gravel, at bnkrs.	1.40 per ton
Washed gravel, at bnkrs.	1.40 per ton
Eliott top gravel, at bnkrs.	1.40 per ton
City gravel, at bunkers	1.40 per ton
River sand, at bunkers	1.00 per ton
Delivered bank sand	1.00 cu. yd.

Note—Above prices are subject to discount of 10c per ton on invoices paid on or before the 15th of month, following delivery.

SAND
Del Monte, $1.75 to $3.00 per ton.
Fan Shell Beach (car lots, f.o.b. Lake Majella), $2.75 to $4.00 per ton.
Cement, $2.44 per bbl. in paper sks.
Cement (f.o.b. Job, S. F.) $2.64 per bbl.
Cement (f.o.b. Job, Oak.), $2.64 per bbl.
Rebate of 10 cents bbl. cash in 15 days.
Atlas "White" .....$ 8.50 per bbl.
Forms, Labors average 22.00 per M.
Average cost of concrete in place, exclusive of forms, 28c per cu. ft.
4-inch concrete basement floor.....13c to 14c per sq. ft.
4½-inch concrete basement floor.....14c to 15c per sq. ft.
2-inch rat-proofing....6½c per sq. ft.
Concrete Steps.....$1.26 per lin. ft.

Dampproofing—
Two-coat work, 20c per yard.
Membrane waterproofing—4 layers of saturated felt, $5.50 per square.
Hot coating work, $2.00 per square.

Electric Wiring — $3.00 to $9.00 per outlet for conduit work (including switches).
Knob and tube average $2.25 to $5.00 per outlet, including switches.

Elevators—
Prices vary according to capacity, speed and type. Consult elevator companies. Average cost of installing an automatic elevator in four-story building, $2600; direct automatic, about $2500.

Excavation—
Sand, 70 cents; clay or shale, $1.25 per yard.
Teams, $10.00 per day.
Trucks, $21 to $27.50 per day.
Above figures are an average without water. Steam shovel work in large quantities, less; hard material, such as rock, will run considerably more.

Fire Escapes—
Ten-foot balcony, with stairs, $65.00 per balcony.

Glass (consult with manufacturers)—
Double strength window glass, 15c per square foot.
Quartz Lite, 50c per square foot.
Plate 80c per square foot.
Art, $1.00 up per square foot.
Wire (for skylights), 27c per square foot.
Obscure glass, 25c per square foot.
Note—Add extra for setting.

Heating—
Average, $1.80 per sq. ft. of radiation, according to conditions.

Iron—Cost of ornamental iron, cast iron, etc., depends on designs.

Lumber (prices delivered to bldg.site)
Common, $24.00 per M (average).
Common O. P. select, average, $34.00 per M.

1 x 6 No. 3– Form lumber	$20.00 per M
1 x 4 No. 1 flooring	45.00 per M
1 x 4 No. 2 flooring	40.50 per M
1 x 4 No. 3 flooring	35.00 per M
1 x 6 No. 2 and better flooring	41.00 per M
1¼ x 4 and 6 No. 2 flooring	50.00 per M

Slash grain—

1 x 4 No. 2 flooring	$35.00 per M
1 x 4 No. 3 flooring	33.00 per M
No. 1 common run to T. & G	30.00 per M
Lath	4.50 per M

Shingles (add cartage to prices quoted)—

Redwood, No. 1	$ .90 per bdle.
Redwood, No. 2	.75 per bdle.
Red Cedar	.90 per bdle.

Hardwood Flooring (delivered to building)—

13-16x3¼" T & G Maple	$135.00 M ft.
1 1-16x2¼" T & G Maple	145.50 M ft.
⅞x3½ sq. edge Maple	132.50 M ft.

	13-16x2¼" T&G	¾x2" T&G	5-16x2" Sq. Ed.
Clr. Qtd. Oak	$220.00 M	$160.00 M	$178 M
Sel. Qtd. Oak	150.00 M	122.00 M	131 M
Clr. Pla. Oak	155.00 M	110.00 M	113 M
Sel. Pla. Oak	132.00 M	79.00 M	97 M
Clear Maple	147.00 M	101.00 M	
Laying & Finishing	16c ft.	15c ft.	13c ft.

Wage—Floor layers, $9.00 per day.

Building Paper—

1 ply per 1000 ft. roll	$4.00
2 ply per 1000 ft. roll	6.00
3 ply per 1000 ft. roll	9.25
Sash cord com. No. 7	$ 1.05 per 100 ft.
Sash cord com. No. 8	1.20 per 100 ft.
Sash cord spot No. 7	1.75 per 100 ft.
Sash cord spot No. 8	1.10 per 100 ft.
Sash weights cast iron	57.00 ton

Nails, $3.25 base.
Belgian nails, $3.00 base.

Millwork—
O. P. $85.00 per 1000. R. W., $92.00 per 1000 (delivered).
Double hung box window frames, average, with trim, $6.50 and up, each.
Doors, including trim (single panel, 1¾ in. Ore. pine) $7.00 and up each.
Doors, including trim (five panel, 1¾ in. Oregon pine) $6.00 each.
Screen doors, $3.50 each.
Patent screen windows, 25c a sq. ft.
Cases for kitchen pantries seven ft. high, per lineal ft., $6.00 each.
Dining room cases, $7.00 per lineal foot.
Labor—Rough carpentry, warehouse heavy framing (average), $11.00 per M.
For smaller work, average, $22 to $30 per 1000.

Marble—(Not set), add 50c to 65c per ft. for setting.

Alaska	$1.40 sq. ft.
Columbia	1.40 sq. ft.
Golden Vein Yule Colo	1.70 sq. ft.
Pink Lepanto	1.50 sq. ft.
Italian	1.75 sq. ft

Tennessee ..... 1.70 sq. ft.
Verde Antique ..... 3.00 sq. ft.

NOTE—Above quotations are for ⅞ inch wainscot in large slabs f.o.b. factory. Prices on all other classes of work should be obtained from the manufacturers.

Floor Tile—Set in place.

Verde Antique ..... $2.50 sq. ft.
Tennessee ..... 1.50 sq. ft.
Alaska ..... 1.35 sq. ft.
Columbia ..... 1.45 sq. ft.
Yule Colorado ..... 1.45 sq. ft.
Travertine ..... 1.60 sq. ft.

Painting—

Two-coat work ..... 30c per yard
Three-coat work ..... 40c per yard
Whitewashing ..... 4c per yard
Cold Water Painting ..... 8c per yard
Turpentine, 90c per gal. in cans and 75c per gal. in drums.
Raw Linseed Oil—$1.36 gal. in bbls.
Boiled Linseed Oil—$1.39 gal. in bbls.

Carter or Dutch Boy White Lead in Oil (in steel kegs)

Per. Lb.
1 ton lots, 100 lbs. net weight 12¾c
500 lb. and less than 1 ton lots 12½c.
Less than 500 lb. lots 12c

Dutch Boy Dry Red Lead and Litharge (in steel kegs)

1 ton lots, 100 lb. kegs, net wt. 12¾c
500 lb. and less than 1 ton lots 12½c
Less than 500 lb. lots 13c

Red Lead in Oil (in steel kegs)

1 ton lots, 100 lbs. net weight 13¾c
500 lb. and less than 1 ton lots 14c
Less than 500 lb. lots 14¼c
Note—Accessibility and conditions cause wide variance of costs.

Patent Chimneys—

6-inch ..... $1.00 lineal foot
8-inch ..... 1.50 lineal foot
10-inch ..... 1.85 lineal foot
12-inch ..... 2.10 lineal foot

Pipe Casings — 14" long (average), $5.00 each.

Plastering—Interior—

	Yard
1 coat, brown mortar only, wood lath	$0.40
2 coats, lime mortar hard finish, wood lath	.52
2 coats, hard wall plaster, wood lath	.55
3 coats, metal lath and plaster	1.00
Keene cement on metal lath	1.25
Ceilings with ¾ hot roll channels metal lath	.67
Ceilings with ¾ hot roll channels metal lath plastered	1.40
Shingle partition ¾ channel lath 1 side	.62
Single partition ¾ channel lath 2 sides 2 inches thick	2.20
4-inch double partition ¾ channel lath 2 sides	1.30
4-inch double partition ¾ channel lath 2 sides plastered	2.45

Plastering—Exterior—

	Yard
2 coats cement finish, brick or concrete wall	$1.00
2 coats Atlas cement, brick or concrete wall	1.25
3 coats cement finish No. 18 gauge wire mesh	1.75
3 coats Atlas finish No. 18 gauge wire mesh	2.05
Wood lath, $4.50 per 1000.	
2.5-lb. metal lath (dipped)	.19
2.5-lb. metal lath (galvanized)	.22
3.4-lb. metal lath (dipped)	.24
3.4-lb. metal lath (galvanized)	.29

¾-inch hot roll channels, $45 per ton.
Hardwall plaster, $15.40 ton; $12.95 in paper sacks (rebate 15c sack).
Finish plaster, $16.40 ton; in paper sacks, $13.85 (rebate 10c sack).
Dealer's commission, $1.00 off above quotations.
Hydrate Lime, $19.50 ton.
Lime, f.o.b. warehouse, $2.25 bbl.; cars, $2.15
Lime, bulk (ton 2000 lbs.), $16.00 ton.
Wall Board 5 ply, $43.00 per M.

Composition Stucco—$1.60 to 2.00 per sq. yard (applied).

Plumbing—

From $60.00 per fixture up, according to grade, quantity and runs.

Roofing—

"Standard" tar and gravel, $5.25 per square for 30 squares or over.
Less than 30 squares, $5.50 per sq.
Tile, $19.00 to $35.00 per square.
Redwood Shingles, $11.00 per square in place.
Cedar Shingles, $10.50 sq. in place.
Recoat, with Gravel, $3.00 per sq.

Sheet Metal—

Windows—Metal, $1.85 a sq. foot.
Fire doors (average), including hardware, $2.15 per sq. foot.

Skylights—

Copper, $1.35 sq. ft. (not glazed).
Galvanized iron, 30c sq. ft. (not glazed).

Stone—

Granite, average, $6.00 sq. foot in place.
Sandstone, average Blue, $3.50; Boise, $2.60 sq. ft. in place.
Indiana Limestone, $2.60 per sq. ft. in place.

Store Fronts—

Copper sash bars for store fronts, corner, center and around sides, will average 75c per lineal foot.
Note—Consult with agents.

Steel Structural—$85.00 per ton erected). This quotation is an average for comparatively small quantities
Light truss work higher; plain beam and column work in large quantities, less.
Cost of steel for average building (erected), $82.00 per ton.

Reinforcing—

Base price for car load lots, $2.50 100 lbs., f.o.b. cars.
Average cost to install, $23 per ton.

Steel Sash—

All makes, from S. F. stock, 18c to 30c per square foot.
All makes, plant shipment, 18c to 30c per square foot.
(Includes mullions and hardware.)

Tile—White glazed, 75c per foot, laid.
White floor, 75c per foot, laid.
Colored floor tile, $1.00 per ft., laid.
Promenade tile, 80c per sq. ft., laid.

1929 WAGE SCHEDULE FOR SAN FRANCISCO BUILDING TRADES

Craft	Journeymen Mechanics
Asbestos workers	$ 8.00
Bricklayers	11.00
Bricklayers' hodcarriers	7.00
Cabinet workers, (shop)	7.50
Cabinet workers, (outside)	9.00
Carpenters	9.00
Cement finishers	9.00
Electric workers	9.00
Electrical fixture hangers	8.00
Elevator constructors	10.00
Elevator helpers	7.00
Engineers, portable and hoisting	9.00
Glass workers	8.50
Hardwood floormen	9.00
Housemovers	8.00
Housesmiths, arch. iron, skilled all branches	9.00
Housesmiths, arch. iron, not skilled all branches	8.00
Housesmiths, reinforced concrete, or rodmen	9.00
Iron workers (bridge & structural) including engineers	11.00
Laborers, building (6-day week)	5.50
Lathers, channel iron	10.00
*Lathers, all other	8.50
Marble setters	10.00
Marble helpers	6.00
Marble cutters and copers	8.00
Marble bed rubbers	7.50
Marble polishers and finishers	7.00
Millmen, planing mill department	7.00
Millmen, sash and door	6.00
Millwrights	8.00
Model makers	10.00
Model casters	9.00
Mosaic and Terrazzo workers	9.00
Mosaic and Terrazzo helpers	6.00
Painters	9.00
Painters, varnishers and polishers (shop)	7.50
Painters, varnishers and polishers (outside)	9.00
Pile drivers and wharf builders	9.00
Pile drivers engineers	10.00
Plasterers	11.00
Plasterers' hodcarriers	7.50
Plumbers	10.00
Roofers, composition	8.00
Roofers, all others	8.00
Sheet metal workers	9.00
Sprinkler fitters	10.00
Steam fitters	10.00
Stair builders	9.00
Stone cutters, soft and granite	8.50
Stone setters, soft and granite	9.00
Stone carvers	8.50
Stone derrickmen	9.00
Tile setters	10.00
Tile helpers	6.00
Auto truck drivers, less than 2500 lbs.	5.50
Auto truck drivers, 2500 to 4500 lbs.	6.00
Auto truck drivers, 4500 to 6500 lbs.	6.50
Auto truck drivers, 6500 lbs. and over	7.00
General teamsters, 1 horse	5.50
General teamsters, 2 horses	6.00
General teamsters, 4 horses	6.50
Plow teamsters, 4 horses	6.50
Scraper teamsters, 2 horses	6.00
Scraper teamsters, 4 horses	6.00

*On wood lath if piece rates are paid they shall be not less than such an amount as will guarantee, on an average day's production of 1600 lath, the day wage set forth.

Eight hours shall constitute a day's work for all Crafts except as otherwise noted.

Plasterer's hodcarriers, bricklayers' hodcarriers, roofers, laborers, and engineers, portable and hoisting, shall start 15 minutes before other workmen, both at morning and noon.

Five and one-half days, consisting of eight hours on Monday to Friday inclusive, and four hours on Saturday forenoon shall constitute a week's work.

Overtime shall be paid as follows: For the first four hours after the first eight hours, time and one-half. All time thereafter shall be paid double time. Saturday afternoon (except laborers), Sundays from 12 midnight Saturday, and Holidays from 12 midnight of the preceding day shall be paid double time. On Saturday afternoon laborers, building, shall be paid straight time.

Where two shifts are worked in any twenty-four hours shift time shall be straight time. Where three shifts are worked, eight hours pay shall be paid for seven hours on the second and third shifts.

All work shall regularly be performed between the hours of 8 A. M. and 5 P. M., provided, that in emergencies or where premises cannot be vacated for work by mechanics until the close of business, men then reporting for work shall work at straight time; but any work performed after midnight shall be paid time and one-half except on Saturday afternoons, Sundays, and holidays, when double time shall be paid.

Recognized holidays to be New Year's Day, Decoration Day, Fourth of July, Labor Day, Admission Day, Thanksgiving Day and Christmas Day.

Men ordered to report for work, for whom no employment is provided, shall be entitled to two hours pay.

The ARCHITECT AND ENGINEER

JANUARY
1930

OTIS

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IN

PACIFIC COAST CITIES

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Los Angeles

*Southern California Telephone Company Building
Los Angeles

Board of Trade Building
Los Angeles

Russ Building
San Francisco

Hunter-Dulin Building
San Francisco

Pacific Telephone and Telegraph Building
San Francisco

Four-Fifty Sutter Building
San Francisco

*Shell Oil Company Building
San Francisco

Public Utilities Building
Portland

Paulsen Medical and Dental Building
Spokane

Fourteen-Eleven Fourth Ave. Building
Seattle

Shopping Tower Building
Seattle

Medical-Dental Building
Vancouver

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*Under Construction.

WHO'S WHO IN THIS ISSUE

CHARLES H. CHENEY, city planner for the Palos Verdes Estates development, described in this issue, was born in 1884 in Rome, Italy, (of California parentage.) In 1905 he took his A. B. degree in architecture and engineering at the University of California and then spent several years abroad studying at the Ecole de Beaux Arts, Paris. After two years in New York, working with Chas. A. Platt and others, he returned to California in 1912 for the San Francisco City Hall competition. His first commission in private practice was the lay out of a large town planning scheme in Northern California and he has been engaged in planning practice ever since, having served as technical consultant to many of the more important cities on this coast at one time or another, including Riverside, Santa Barbara, Long Beach, Los Angeles, Monterey, Alameda, Berkeley, Portland, etc. Has also been engaged on design of new townsites and large subdivisions at Palos Verdes Estates, Rancho Santa Fe and other places in California, as well as on a number of projects in other states. This year he is national chairman of the City and Regional Planning Committee of the American Institute of Architects, a director of the National Conference on City Planning and vice president of the California Conference on City Planning. He has been a member and secretary of the Palos Verdes Art Jury since its founding in 1923.

COL. JOHN C. LOW, who writes in this issue of Community Associations and Property Owners' Government, is president of the largest body of this kind in California. He is a graduate of Dickenson College and before coming to Los Angeles in 1920 was a mining engineer, and a lieutenant-colonel of engineers in the world war. As assistant general manager of the Palos Verdes Project since its inception in 1921 he has had a deal to do with upholding the high ideals of this beautiful community. Through being also president of Palos Verdes School Board, he has contributed much to the welfare of the residents and their children.

DAVID C. ALLISON, architect of Los Angeles, tells in this number of long years of constructive experiences on an art jury. He was born at Hookstown, Pa., in 1881 and graduated in the school of architecture at the University of Pennsylvania. After studying at the Ecole de Beaux Arts in Paris he started practice in Pittsburgh, Pa., and moved to Los Angeles in 1910, becoming a member of the firm of Allison & Allison, architects, which has since been responsible for so many fine public buildings, clubs and churches in California and the southwest. Among these buildings are the University Club and Friday Morning Club in Los Angeles, grammar and high school buildings in Santa Monica, Santa Maria, Palo Alto, Pasadena and some 150 other places in California and Arizona, the old U. C. L. A. buildings (now Los Angeles Junior College), a number of the new University of California at Los Angeles buildings (Westwood), etc. He is a fellow of the American Institute of Architects and former president of the Southern California Chapter. Since 1923 he has been a member of Palos Verdes Art Jury.

JAMES F. DAWSON gives in this issue some pertinent ideas on arrangements of residences from the landscape architects point of view. He was born in Jamaica Plain, Mass., in 1874, studied at Harvard and under Olmsted Brothers, landscape architects, and finaly became a partner of that firm in 1922. He is a Fellow of the American Society of Landscape Architects. Among other developments, he has been engaged upon park and large estates planning at Scarborough and Long Island, N. Y., Seattle and Spokane, Wash., including the Seattle Exposition of 1909; St. Francis Wood, San Francisco, Berkeley, Palos Verdes Estates, Santa Barbara and Monterey, California; Colorado Springs, Colorado, and Daytona, Florida. He became a member of the Palos Verdes Art Jury in 1925.

JAY LAWYER is general manager of the Palos Verdes Project and writes authoritatively in this issue, from long experience, on the business value of good design and the maintenance of architectural control. He was born in Sycamore, Ill., in 1870 and for many years has represented the Frank A. Vanderlip interests on the Pacific Coast, including developments at Marshfield, Oregon, Los Molinos, California, and on the Palos Verdes Art Jury since 1923.

A. C. ZIMMERMAN, who, with W. H. Harrison, won the National Airport Competition, is a graduate of University of Southern California and the Beaux Arts Institute of Design and is a member of the American Institute of Architects. He received the honor award of Southern California Chapter for the best designed commercial building erected in 1923 and the best designed school erected during 1924. He was highly commended for a residence entered in the National House Beautiful competition. Mr. Zimmerman is now architect in charge of the development of the Western Air Express Terminal at Los Angeles. He is 35 years of age. W. H. Harrison graduated from Cornell University in 1921 and was awarded the graduate fellowship in architecture. He won first prize in the Small House Service Bureau competition of 1923.

EINAR C. PETERSEN, mural painter and decorator of Los Angeles, was born in Denmark in 1885. He served as a decorator's apprentice for five years in his native country and with a scholarship from the Danish government studied painting for several years in Paris, Munich and Rome. He established himself as a decorator in Los Angeles in 1916, and for the past fourteen years has executed murals and decorative painting in numerous public and private buildings throughout California. Mr. Petersen received two honor awards from the American Institute of Architects for exceptional merit of work. His most recent paintings are in the new City Hall and Alexander Baldwin Building, Honolulu.

CONVENTIONS AND EXHIBITIONS

January 18—30—International Exhibition of Building Trades and Allied Industries, Brussels, Belgium.

January 27—31—International Heating and Ventilating Exposition, Commercial Museum, Philadelphia.

January 28-31—Annual Meeting American Society of Heating and Ventilating Engineers, Philadelphia.

February—Convention American Concrete Institute, New Orleans.

March 31-April 5th—Twelfth Annual Home Show, Grand Central Palace, New York City.

March—April—International Exhibition of Housing and Modern Industrial Applied Arts. Nice, France.

April 15-May 10—Third Annual Decorative Art Exhibition, Women's City Club, 465 Post street, San Francisco.

May 20—October 1—Exhibition of Modern Industrial and Decorative Arts, Stockholm, Sweden.

May 21 23—American Institute of Architects, sixty-third convention, Mayflower Hotel, Washington, D. C.

May 26-30—International Congress of Building and Public Works, London.

June 19-30—Pan-American Congress of Architects, Rio de Janeiro, Brazil.

September—International Architects' Congress, Budapest, Hungary.

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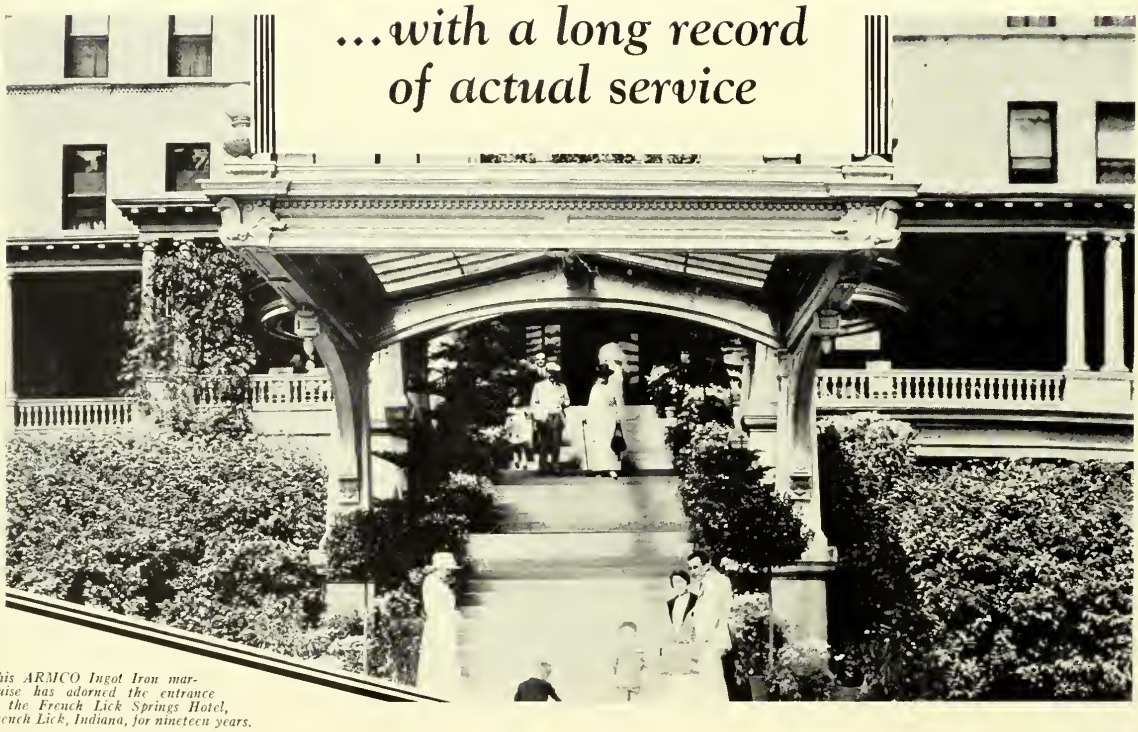

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The ARCHITECT AND ENGINEER

Since 1905

VOLUME 100 JANUARY, 1930 NUMBER 1

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From an Original Water Color by Warren D. Cheney

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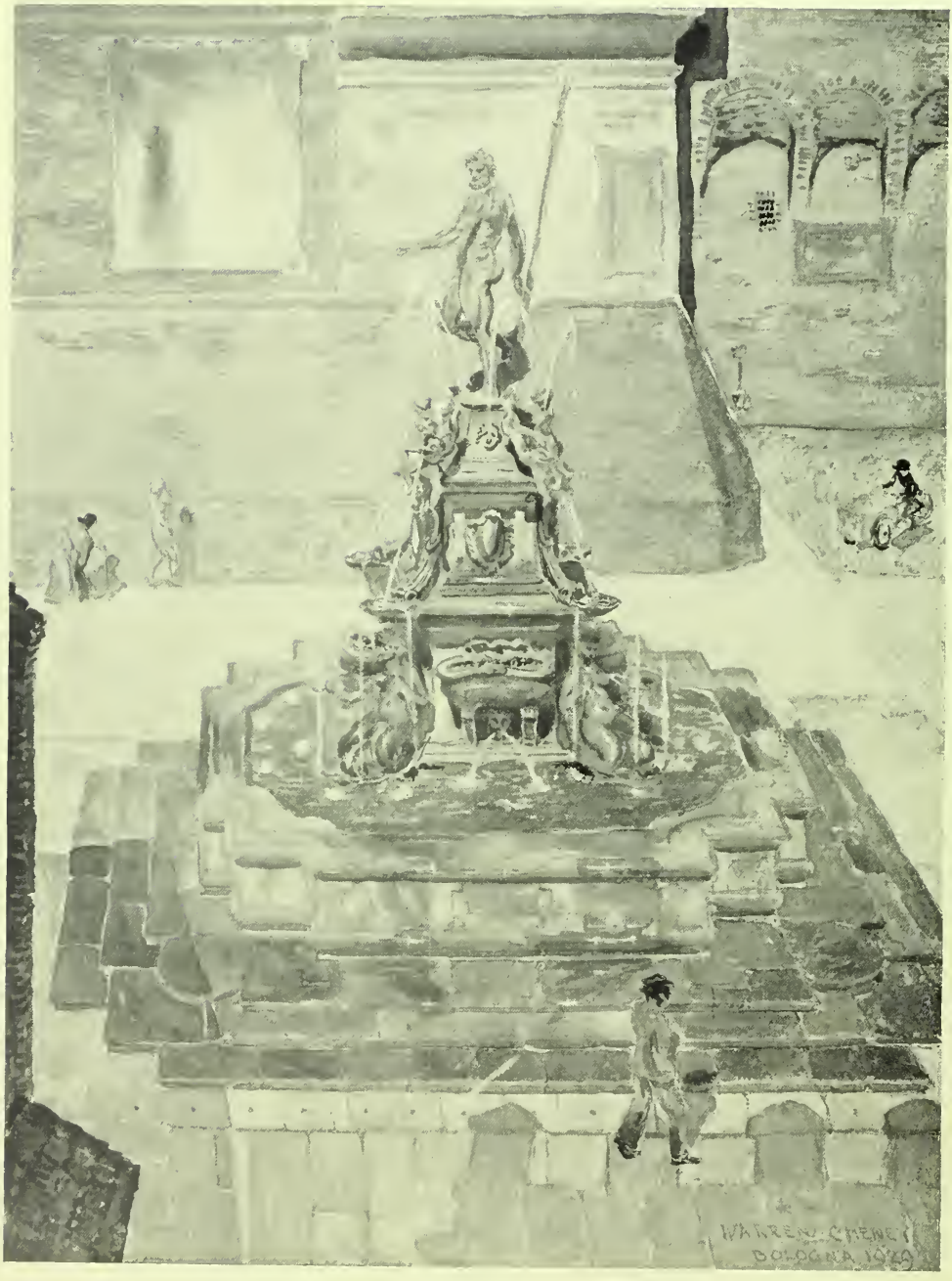


THE FOUNTAIN OF NEPTUNE, BOLOGNA, ITALY

BRONZE FIGURE BY GIOVANNI DI BOLOGNA, ERECTED 1563

(From original watercolor by Warren D. Cheney, May, 1929)

An antique replica of this fountain has been presented to Palos Verdes Community and is now in course of erection in the center of Malaga Cove Plaza

The ARCHITECT AND ENGINEER

VOLUME C JANUARY, 1930 NUMBER ONE

PALOS VERDES EIGHT YEARS of DEVELOPMENT

By Chas. H. Cheney
Consultant in City Planning

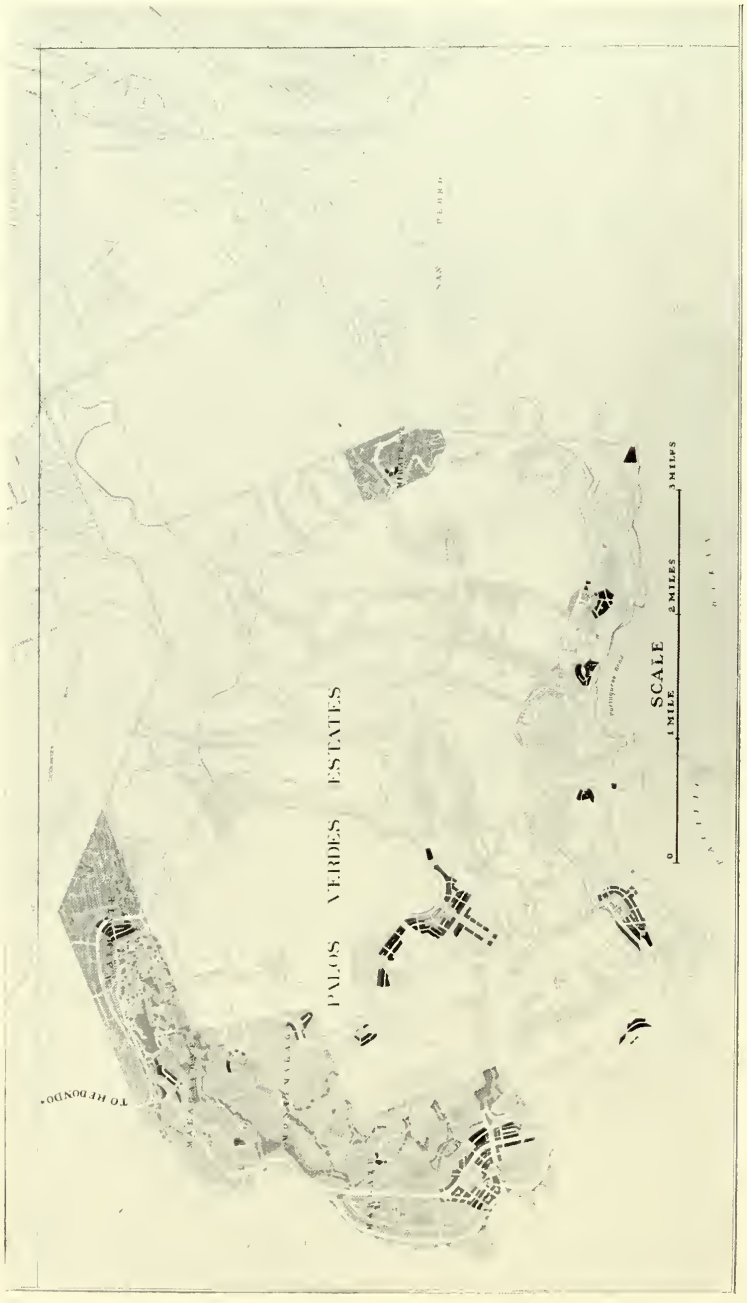
THE story of Palos Verdes is interesting because it shows another of California's great dreams coming true. Conceived in 1921 as an ideal residential suburb for the large adjoining metropolitan district of Los Angeles, it was to be a place where one could build his home in safety, without fear that the neighborhood would ever be made unsightly or undesirable. Since 1923, when construction began, this project has moved steadily ahead, adhering to its high ideals, with sound construction, fine planting and architecture of the best type ensured by an able and permanent art jury having veto power over the design and color of all improvements.

Palos Verdes Ranch lies at the southwest corner of the Los Angeles metropolitan district about twenty miles from the center of the city, and includes twelve miles of seacoast, on beautiful rolling hills with many charming bays and inlets, on the promontory which projects into the ocean toward Catalina Island, between Redondo Beach and San Pedro. Here the Vanderlip Syndicate acquired 16,000 acres (or 25 square miles) in 1913, becoming the sixth owner in succession from the original grant from the King of Spain.

The object of the first development was to furnish a residential neighborhood assured of a better environment than had heretofore been offered about Los Angeles—more open space, better recreation areas, more careful control of architecture — such as may be found elsewhere in the United States to a limited degree in established districts like Roland Park, Baltimore; Forest Hills, Long Island, or St. Francis Wood, San Francisco. Hence in Palos Verdes approximately twenty-five percent of the whole area is dedicated for parks and recreation.

The first area developed has been the 3225 acres (or 5 square miles) lying along the northern and western fringe of this ranch. The inital development is financed in comparatively small amounts through the Palos Verdes Trust, by several thousand participating owners, about two thousand of whom have bought home sites at reduced rates as underwriters.

Fortunately for the perfection of this conception, the planners were brought into the situation at the start—Olmsted Brothers, landscape architects, the writer as consultant in city planning, and H. T. Cory, consulting engineer (for the first 3 years). A



PLAN OF PALOS VERDES ESTATES, LOS ANGELES COUNTY, CALIFORNIA
OLMSTED BROTHERS, LANDSCAPE ARCHITECTS
CHAS. H. CHENEY, CONSULTANT IN CITY PLANNING

master or guiding plan for the entire 16,000 acres was completed in 1923, and then precised, unit by unit, for the development of the 3225 acres placed on the market and generally known as the Palos Verdes Project.

Some 2800 acres of subdivisions of the Palos Verdes plan have been filed of record and more than half of the lots are sold out of a total of some 5000, in the 3225 acres being developed. Four and a half million dollars worth of improvements of streets, utilities, planting, etc., had been done up to July 1, 1929, and as much again is to be spent during the next three years. Hence this project is now well along towards being built. Over two and a half million dollars of building permits were issued up to August 1, 1929.

Looking back on this project after eight years of intimate connection with it the following would seem to be the most valuable contributions to community building in America:

(1) The completion at the beginning of a master or guiding plan for the whole area.

This plan provided for wide continuous major traffic streets with good wide planting strips, contour roads, parkways or show drives, single family, apartment and business zoning with business centers at well established foci or traffic centers, church locations, parks, playgrounds, school sites and continuous park strips for bridle trails, preservation of ocean shore, etc.

(2) The faithful adherence to this master plan in the 3225 acres first developed.

(3) The best provision of parks and playgrounds to be found in any residential community in the country. Approximately one-fourth of the entire area (over 700 acres in the first 3225 acre development) has been deeded over to the community association, in which every lot owner has a share.

This includes establishment of the 10-25-40 system of public playgrounds, schools and parks, providing ten acres every mile across the property for an elementary school site and playground for children under 12, with a wide border plantation or screen and with some public park; a 25 acre junior high school site, play fields and neighborhood park every two miles across the property; and a 40 acre senior high school, play field and park every three miles across the property. The excellence of all the sidewalk plantings and particularly the fine range of flowering trees and shrubs established by Olmsted Brothers, landscape architects, is not only a contribution to the art of landscape design, but a conspicuous civic asset.

(4) The complete protection established by the restrictive conditions under which deeds are issued. These include not only a complete zoning ordinance with set up of an architectural board of review or art jury, but also detailed regulations as to types of architecture, building set back lines, minimum cost of buildings, prohibition of nuisances, limitation of the cutting of trees, community planting of vacant lots, clean up of rubbish, establishment of a building code and building permit system, etc.

(5) The complete and permanent architectural control to prevent ugly, carelessly designed or off color structures, established under a permanently endowed art jury, with controlled nominations to insure the service of only the best qualified architects and other members on the jury.

(6) Incorporation of a permanent maintenance association, in which every lot has one vote, with the power to tax lots for the upkeep and maintenance of streets, parks, playgrounds, beaches and all community features, collection of garbage, enforcement of restrictions, and a limited amount of police and fire duty. This unites the purchasers in a strong property owners scheme of government and relieves the selling group of the burden of enforcement of restrictions.

Already considerable national and even international recognition has been given to these important accomplishments of the Palos Verdes Project. The Department of Public Welfare of the Commonwealth of Massachusetts sent to every city and town of that state, a bulletin entitled "Planned for 1960—and After," pointing out what was being done in Palos Verdes Estates with the following comment: "Control in this way, even to the design of the buildings, points clearly to what all places will have to do if the prevailing medley of uses and design is ever to be overcome. The art jury is legally established because the entire area is group controlled instead of being left to private whim and private profit, yet great profits are sure because the value of a home depends upon its value as a home, and not upon its value as a pile of building material."

Most large real estate operators have not yet learned the value of good design except to a limited degree. A practical and interesting contribution was made by Professor

ADOPTED GENERAL DESIGN FOR MALAGA COVE PLAZA, PALOS VERDES

WEBBER AND SPAULDING, ARCHITECTS

Olmsted Brothers, Landscape Architects

Chas. H. Cheney, Consultant in City Planning

Geo. J. Eberle, of the University of Southern California, in his weekly business letter of the Eberle Economic Service for April 16, 1928, in which he valuated the esthetic and other items contributing to the intrinsic value of typical lots in ten large subdivisions around Los Angeles. The basis of rating the value was location, view and restrictions 45 points; environment and architectural control 10 points; landscaping 4 points; site value and accessibility, streets, topography, utilities and soil 41 points. The so-called intangible attributes, including esthetic values, were rated as nearly two-thirds of the whole.

After establishing a comparison of average front foot price and unit foot price, he arrives at a unit foot intrinsic margin ranging from plus six for Palos Verdes Estates to minus fifty for a prominent Santa Monica tract. In other words, a business rating on esthetic values is set up in which the first tract is shown to be selling for 6 per cent less than its intrinsic value and the last one for fifty per cent more than its intrinsic value. This is a step in establishing the economics of esthetics.

The 3225 acres unit of the Palos Verdes Project has been subdivided with approximately 26 per cent of the land in streets, plazas and parkways (considerably less than most suburban developments), with 25 per cent of the area in parks and playgrounds (about 24 per cent more than most suburban developments), and 49 per cent in net salable land, or approximately 1600 acres. The budget of improvements adopted in 1924 for the development of this large area was approximately nine and a half million dollars, not including a million dollars paid for the land. This budget provided for the installation of street surfacing, curbing, grading, paving, some sidewalks, street trees, and some street lights, water, gas, electricity, telephone and a considerable number of general features such as a golf course and club house, bathing pavilion and pool, bridle trails, etc. Of this sum approximately $1,000,000 was for landscaping and recreation features, one of the chief reasons for the remarkably attractive way that Palos Verdes has developed. The total list sale price for this 3225 acres is approximately $24,500,000 so that the investors have at present an anticipation of approximately $14,000,000 profit, less sales expenses.

Palos Verdes is not planned as a self-contained industrial and residential unit. It was conceived primarily as a suburban residential district for a metropolitan area which now contains close to two million people. The zoning done by restriction therefore reserves over 90 per cent of all lots for single family dwellings. Local business centers consist of a few lots each, surrounded by a small group of apartment and house-court sites; necessary stores, garages, service stations and the like are being located in a few compact blocks. The number and kind of these buildings are strictly limited, and the community reasonably controls their architectural design.

Definite standards of architecture have been established; in most parts of the Estates these require the use of a type appropriate to the Southern California climate—its predominant features being walls of light-hued plaster and tile roofs. No billboards or general advertising signs can be erected anywhere in the Estates; the few necessary store and business signs are subject to review by the Art Jury.

By planning so large a tract at a time, it was possible not only to group residence and shopping districts into convenient community units—the store centers being approximately two miles apart—but to make exceptional provision for open spaces and recreation. A 213 acre park and golf course, with grass greens, fairways and clubhouse complete, has been deeded to the community for permanent recreation use; together with four miles of ocean shore park and about two hundred acres of additional parks and gulches, linked up with paths, roads and bridle trails and eventually reaching all parts of the property.

Title to these parks has been turned over to the Palos Verdes Homes Association, which was incorporated as a non-stock, non-profit community organization to bridge the gap that usually occurs in a new section between the time of its first settlement and the incorporation of a city government—a

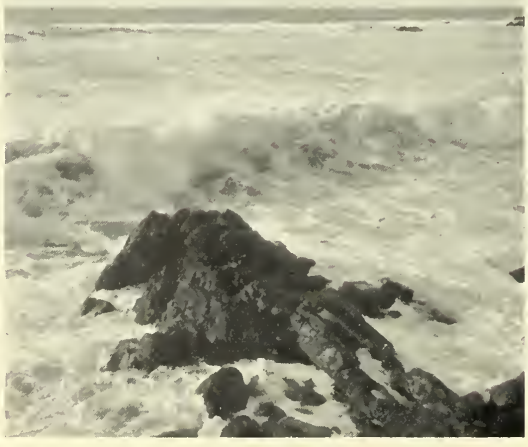
gap which is full of embarrassing possibilities for those whose interest lies in prompt and continuous operation of community service. This association has power to interpret and enforce all the restrictions attached to the property and to collect an annual maintenance tax created in the restrictions by a recurrent annual lien. This tax must never exceed the city tax rate of Los Angeles and is used for the upkeep of recreation sites, street planting, parks and the like, and for the general benefit of all property owners. The association will act as a permanent nucleus for common activities of all sorts.

The difficulty with most of the protective restrictions adopted in residential tracts has been that once put on record they could never be changed until the date of expiration. In Palos Verdes for the first time a reasonable scheme of amendment has been provided, so that, without breaking down the protection offered, it is possible to correct unforeseen difficulties, or, as the years go on, to meet changing conditions.

Enough water has been developed to take care of 20,000 people and more is available. Two arcaded business buildings in Malaga Cove Plaza have been completed. The intangible or esthetic ideals of the garden suburb, elaborately preplanned, are being carried out; Palos Verdes is building for permanency.

Credit for the high ideals with which the Palos Verdes Project has been developed is very largely due to Jay Lawyer, its general manager and guiding genius for the past six years. His summing up of the value of good layout and careful design is given on another page. But the sound foundations which he has laid, and the thorough machinery for carrying on which has been set up, are likely to persist through a long period of time as an object lesson in community building. And a great deal of the consistency of the fine work done is undoubtedly due to the fact that the same staff carried the project through for the seven years since construction started. Col. J. C. Low, assistant general manager and the other members of this group have tempered sound business with idealism and the result is a marvelously attractive community, which will get better and better as years go on, with the fine planting coming up and only good architecture and color permitted.

The remaining 13,000 acres of the Palos Verdes Ranch owned by Frank A. Vanderlip is expected to be developed along much the same lines. Mr. Vanderlip has recently filed of record similar high type protective restrictions, with maintenance association and art jury control over some 2000 acres of Portuguese Bend territory, and promises some very interesting and attractive village development, as well as fine large estates,



ON THE SHORE PARK, PALOS VERDES ESTATES

CASA DEL PORTAL, MALAGA COVE PLAZA, PALOS VERDES ESTATES

WEBBER AND SPAULDING, ARCHITECTS

on this beautiful area facing southward towards Catalina Island. His constructive-mindedness and genius for large affairs are well known. The announced intention of requiring here the Italian type of architecture, rather than the bolder Spanish and Mediterranean, encouraged on the first unit of the Estates, will be watched with interest.

SALLY PORT OVER VIA CHICA AND CASA DEL PORTAL, PALOS VERDES ESTATES
Webber and Spaulding, Architects

THE MEDITERRANEAN ATMOSPHERE PREVAILS IN THIS SMALL PALOS VERDES HOME

COMMUNITY ASSOCIATION CONTROL IN UNINCORPORATED TERRITORY

By J. C. Low

TO keep a neighborhood nice and attractive, with safety from fire and lack of policing, and to give it the other wholesome attributes of a high-class residential community, from the beginning of a real estate project, is a large undertaking, unless there has been careful forethought and organization. When the neighborhood stretches over five square miles, the size of the undertaking is considerable.

In Palos Verdes Estates, however, these things were carefully thought out and the experience of the best large developments of the country taken advantage of. Before any lots were sold a non-stock, non-profit community association was incorporated under title XXII of part IV of division First of the Civil Code of California as approved March 21, 1872, and given the name of "Palos Verdes Homes Association." Under the restrictions also placed of record before the lots were sold, this Association was granted the authority to do practically everything of a community nature needful for the upkeep and maintenance of the beautiful district laid out on Palos Verdes Hills.

The Association has now grown to include over 3,000 individual owners of lots, each of whom is forced to have a membership running with his land, and this membership ceases if he disposes of his land.

In accepting deeds for their lots, purchasers obligate themselves to be bound by the rules and regulations of this Association, which is authorized to enforce protective restrictions, take care of street maintenance, street signs, garbage collection, cleaning up of lots, police and fire protection, maintain parks, a Building Commissioner and building inspection service. A building code has been adopted as complete as that of the City of Los Angeles, so that there is no bad wiring, plumbing, foundation or shoddy construction permitted in the Estates. In fact, people living here have all of the usual protections of a city while living in the country.

The protective restrictions also establish a maintenance tax running with the land. Last year we collected $48,000 from this tax, the Project paying its share on the unsold lots just like any other property owner, and these funds were used for the purposes indicated above.

The Association owns outright some 700 acres of parks and playgrounds donated to the community by the Palos Verdes Project, and held for the common benefit of all members. These lands are worth in excess of $2,000,000, and include a complete 18-hole golf course and club house, some four miles of ocean shore, and bridle trails, beautiful natural canyons and scenic bits that will forever enhance the residential value of this community.

Acting as a group, the association has been able to obtain annually from the County substantial help for road maintenance, last year securing $5,450. A considerable sum is also obtained from building permits, fees for which are the same as for Los An-

NORTH FACADE, CASA PRIMERA, MALAGA COVE PLAZA, PALOS VERDES ESTATES

WEBBER AND SPAULDING, ARCHITECTS

Selected as one of the ten most notable examples of architecture in Palos Verdes Estates by the Art Jury, 1929

geles, making possible five inspections during the progress of construction of each building.

The business of the Association is transacted by a board of five directors, who meet frequently and are elected at the annual meeting of all members, as provided by State Law. The Association has a paid secretary and manager and a building commissioner, who are its executive officers. It also holds hearings and passes on amendments to the restrictions in case it is necessary to change a set-back line or some such minor provision as authorized in the protective covenants of record. It employs deputy sheriffs, gardeners and a road crew; has an attorney for legal questions relating to restrictions and regulations. In general, it operates much as the board of trustees of a small city would do.

Closely related to the Association, is Palos Verdes Art Jury, which, however, is a judicial body to pass on standards of excellence of design and color. The Association must submit to it for approval all designs for fountains, works of art or community structures in parks and streets, just the same as private owners have to do under the protective restrictions. This holds up the standard and prevents any objectionable or careless design from creeping in.

On the whole, the people of Palos Verdes community have been given a complete form of organization whereby they can carry on the fine things originally conceived and established for them and make them better year by year. The system is automatic in that as fast as the project completes any district and turns it over to the Association, there is a means of keeping up the

THE VIA CORTA CORNER OF CASA PRIMERA, PALOS VERDES ESTATES
Webber and Spaulding, Architects
Selected as one of the ten most notable examples of architecture in Palos Verdes Estates by the Art Jury, 1929

fine sidewalks, trees, shrubs and the park planting installed. Each buyer takes up his share of the burden of maintenance. There can be no absentee owners or shirkers who fail to pay their share because a recurrent annual lien has been retained on the land and transferred to the Association to enforce collection of the annual upkeep tax. The tax rate last year and this year too is $1.60 on the $100 of County assessed valuation, and as the lots here as in any new district are generally assessed for only a few hundred dollars a piece, the tax burden is not heavy on anyone for the Association.

This community association will, therefore, take on ever increasing importance as the years go on. As this seems likely to remain for a long time a district of home owners, the scheme of property owners government provided will probably be sufficient for all general governmental needs with the aid of the County services. It is therefore presumed that Palos Verdes may never incorporate as a city or, at least, not for a long time. To do so would merely add increased taxation and a duplication of community services, because there would be no legal method of transferring the duties and privileges set up under the protective restrictions. It is hoped that the administration of the Association will be so responsive to community needs that no such move could be thought advantageous.

COMMUNITY OWNED BRIDLE TRAILS LEAD FROM THE TOP OF THE HILLS TO THE OCEAN BEACH, PALOS VERDES ESTATES

FROM AN ARCH OF A BUSINESS BUILDING, PALOS VERDES ESTATES

OLMSTED BROTHERS, LANDSCAPE ARCHITECTS

Selected as one of the ten most notable examples of architecture in Palos Verdes Estates by the Art Jury, 1929

LA VENTA INN FROM BELOW

LA VENTA INN, PALOS VERDES ESTATES, CALIFORNIA

Pierpont and Walter Davis, Architects

TERRACE, LA VENTA INN, PALOS VERDES ESTATES, CALIFORNIA
Pierpont and Walter Davis, Architects
The water worn native field stone and flags are extensively used on The Estates and add greatly to the landscape effects

WELL PLANNED COMMUNITY DEVELOPMENT PAYS

By Joy Lowyer

WHEN the Palos Verdes development was about to be started the management, after long and careful consideration, decided to attempt to make of it the finest development that the best obtainable talent could visualize. We believed that there were enough people who had a real appreciation of beauty in architecture and in nature to make a financial success of a home development of the very highest type.

I am happy to say that our judgment has been more than vindicated by the tremendous approval and success that has come to Palos Verdes Estates. It is not only the outstanding development in Southern California, but it is recognized throughout the entire United States as the one really complete and outstanding thing of its kind to be found anywhere.

In the beginning we had considerable difficulty convincing the public that we really meant what we said and that we were

PORTICO, RESIDENCE OF MRS. F. F. SCHELLENBERG, PALOS VERDES ESTATES
Kirtland Cutter, Architect

going to create an Art Jury that would actually function and that would have absolute control over all building and structures of every kind, and a Homes Association that would actually own one fourth of the entire development in community park areas, golf courses and other developments of kindred nature.

We have now reached the stage where the development speaks for itself and we no longer have to sell the idea, as is evidenced by the fact that the total sales within the Project in the approximately six years since it was started are in excess of $8,000,000.00.

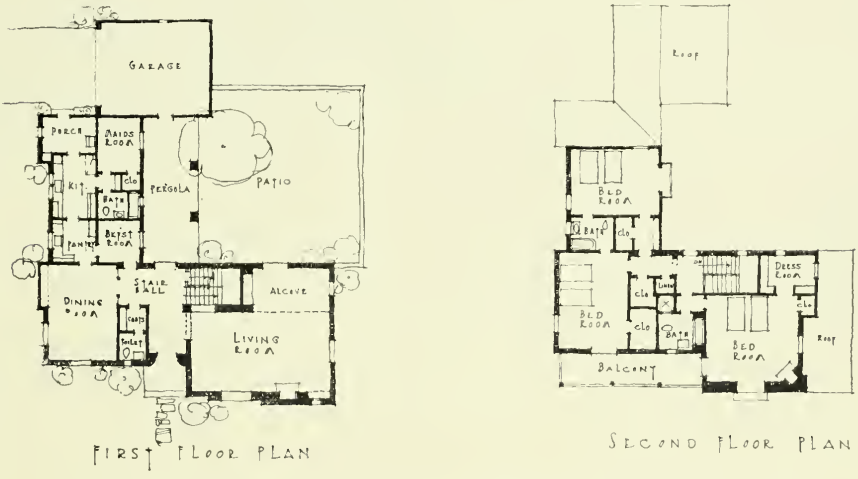
I think this is a complete answer to the question: Does beauty pay in a real estate development? It certainly has in our case. It is true that in Palos Verdes we had a piece of land that lent itself peculiarly from every angle to a development of this nature, but it is possible to do approximately what we have done here in almost any residential development.

Then there is another angle, and that is the satisfaction to be derived from a job well done, and this satisfaction is shared by every member of the Palos Verdes organization, as well as by the residents and property owners within the Estates.

I firmly believe that the time is fast approaching when it will be impossible to successfully market a real estate development without providing at least real architectural supervision and a real park area in proper proportion to the area involved.

PATIO, RESIDENCE OF MRS. F. F. SCHELLENBERG, PALOS VERDES ESTATES

Kirtland Cutter, Architect



PLAN, RESIDENCE OF MRS. F. F. SCHELLENBERG, PALOS VERDES ESTATES

Kirtland Cutter, Architect

PALOS VERDES ART JURY ON ANNUAL INSPECTION, 1929
Left to Right: JAMES F. DAWSON, ROBERT FARQUHAR, JAY LAWYER, DAVID C. ALLISON and CHAS. H. CHENEY
(President Myron Hunt was absent)

WIDE, SMOOTH AVENUES ARE TYPICAL OF PALOS VERDES ESTATES

SEVEN YEARS OF ARCHITECTURAL CONTROL IN PALOS VERDES

By David C. Allison, F.A.I.A.

ARCHITECTURAL control may be comparatively a new subject to most people, but it will be found to be deeply appreciated by those living in suburbs where the control has been at all properly administered. As a member of the board which for the past seven years has been judicially responsible for passing upon the design and color of all buildings in Palos Verdes Estates, near Los Angeles, I am convinced that architectural control is essential to the development of cities, for the protection of investments in homes and other buildings, and for the maintenance of agreeable neighborhoods in which to live or to work.

All of us know of districts where some notably ugly or off-color building has gone in and thereafter destroyed the physical attractiveness of the place to such an extent that people of taste no longer would live there and property values became depreciated. As long as only ten per cent or less in number of the buildings in our cities are designed by competent architects most of the people of the city are bound to suffer from something ugly or disagreeable being erected next to them, unless a definite barrier is put up or some board of review established to see that such things are not permitted.

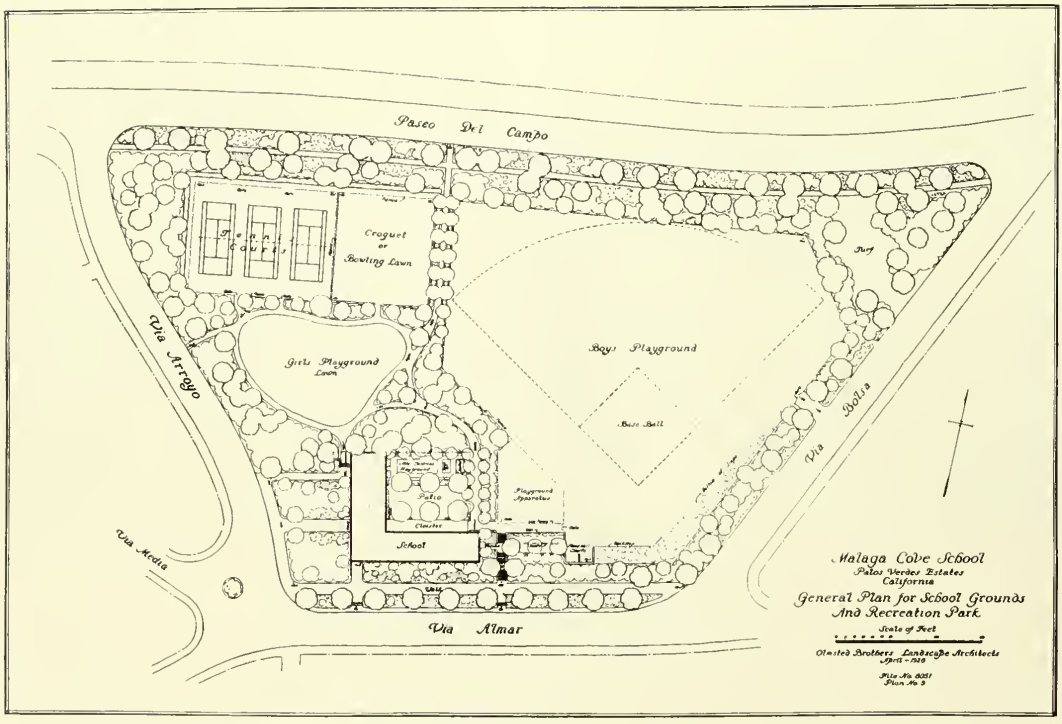
Real estate men for over 50 years have been establishing high class residence districts, and in some instances local business centers, where by restriction, nothing could be built unless complete plans for the proposed buildings were approved in advance. This is architectural control. However, its success is so dependent upon having a competent art jury or architectural board of review to administer it, and with power to enforce their findings, that there have been many failures in the past.

MALAGA COVE ELEMENTARY SCHOOL, PALOS VERDES ESTATES
Allison & Allison, Architects

To be a success it has been found that an art jury must be composed primarily of men trained in the arts, appointed from controlled nominations, permanently established, independent of the selling company, with legal veto upon all plans and color or works of art that are

found unworthy, and financed either by endowment or community tax sufficient to pay an adequate per diem fee to the members of the jury for the few times per month that they must leave their offices for attendance at meetings.

Such an art jury was set up in 1922 for the new Palos Verdes Estates development and has jurisdiction over five square miles



SEVEN ACRE ELEMENTARY SCHOOL PLAYGROUND AND PARK, PALOS VERDES ESTATES
Olmsted Brothers, Landscape Architects

of lovely rolling hills on the ocean south of Redondo Beach. From experience we have found that the administration of architectural control is entirely feasible and to date we have met with very little opposition or difficulty that I know of. We have passed on plans for some three hundred buildings besides many studies of plazas, general schemes, landscape layouts, building restrictions, etc. At first we felt it advisable to make a few concessions to the sales department of the Project, to get things started but with their cooperation we are continually raising the standard and now require distinctly better design, color and finish on all buildings that come before us.

Now that some 160 or more buildings are completed, we are beginning to have many compliments for the simple, dignified architecture, its harmonious and restful quality, and particularly for the appropriateness of the design, which we have secured by a little insistence with the architects who have come before us. The work has been the subject of inquiry and report by a number of national technical bodies, and thoughtful developers, and trained men from all over this country and Europe are continually visiting Palos Verdes and inquiring into the methods of architectural control, often for definite application in their own communities.

Realizing that the public should insist upon similar protection eventually by municipal ordinance, the Department of Public Welfare of the State of Massachusetts not long ago sent to every city and town of that

state a bulletin entitled "Planned for 1960 — and After," pointing out what was being done in the Palos Verdes Estates development, with the following comment: "Control in this way, even to the design of the buildings, points clearly to what all places will have to do if the prevailing medley of uses and design is ever to be overcome. The art jury is legally established because the the limits of the actual deed restriction requirements, which make necessary the use of tile roofs and plaster surfaces over a large part of the Estates and indicate that a more or less Mediterranean style is desired, because the founders of the Project wisely thought that the most appropriate to our Southern California climate. The weak or poorly trained designers are the

AUDITORIUM, MALAGA COVE ELEMENTARY SCHOOL, PALOS VERDES ESTATES
Allison and Allison, Architects

entire area is group-controlled instead of being left to private whim and private profit, yet great profits are sure because the value of a home depends upon its value as a home, and not upon its value as a pile of building material."

Good architects have nothing to fear from properly administered architectural control, as they have always found upon coming before us. The Jury tries to allow every architect the widest latitude of design, within ones who make trouble for the public, and they naturally are our principal concern. But by tactful suggestion and a cooperative spirit we have generally been able to make friends of them, and to secure sufficient study and modification of their designs to permit final approval by the Jury.

In fact we have never definitely had to say *no* finally except in two cases, one of which was on a five dollar set of bungalow plans obviously unfitted for its neighbor-

RESIDENCE OF E. L. ETTER, PALOS VERDES ESTATES
Clarence E. Howard, Architect
Selected as one of the ten most notable examples of architecture in Palos Verdes Estates, by the Art Jury, 1929

hood. Nor have the suggestions offered to architects and owners by the Jury increased the financial burden of the owner. I believe that we have often saved owners considerable unnecessary expense by indicating simplifications of facades and roofs, and even rearrangement of floor plans, although we have no legal jurisdiction over the interior of buildings.

Once in a while some one raises the cry of "censorship," or expresses a fear that the Jury will insist upon a monotony of the same kind of design. I think the latter fear is well refuted by the illustrations in the accompanying pages. On the first point I prefer to think of the passing upon plans that we do as a necessary inspection to protect the public, just as pure food or health inspectors have to do.

We have been particularly fortunate on the Palos Verdes Project in the broad-mindedness and vision of Jay Lawyer, general manager, and his associates, and also of the officials of the Bank of Italy, which is Trustee for the Project. They had the foresight to establish the Jury before a lot was sold and to use its combined wealth of technical knowledge for the criticizing of the original layout and restrictions of the property as well as in following it through in construction. They have also held meticulously to the carrying out of the comprehensive master plan of the five square miles under development made by Olmsted Brothers, landscape architects, and Chas. H. Cheney, consultant in city planning.

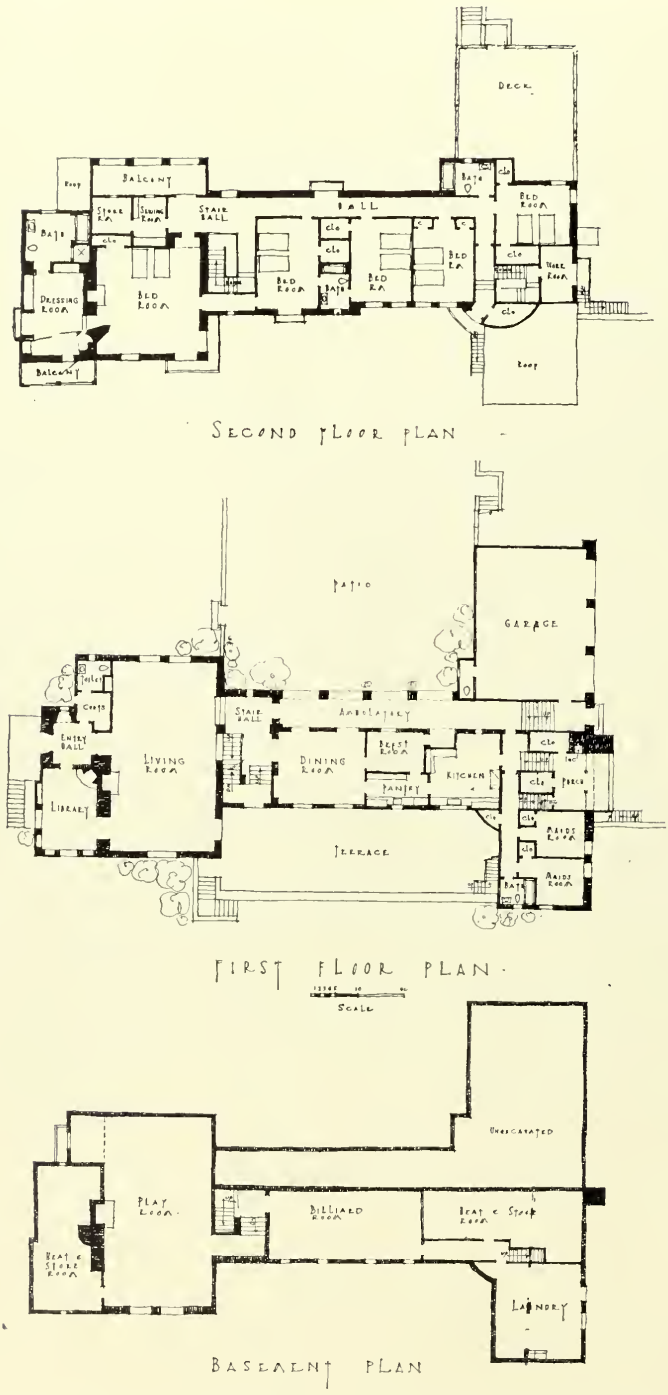
The architecture of this suburb has been given its necessary setting of rich planting with a wide variety of flowering sidewalk shrubs and trees and the jury has also met with fine response suggestions for landscaping on the part of the owners of both large and small homes.

The members of Palos Verdes Art Jury therefore have considerable satisfaction in acting for this attractive community, and rejoice to find that more and more people who have homes in Palos Verdes are requesting the Jury to tighten its standards, rather than to lower them.

LOWER: RESIDENCE OF EARLE W. GARD. UPPER: RESIDENCES OF W. M. SUTHERLAND,
PALOS VERDES ESTATES
Kirtland Cutter, Architect

Selected as two of the ten most notable examples of architecture in Palos Verdes Estates by the Art Jury, 1929

RESIDENCE OF EARLE W. GARD, PALOS VERDES ESTATES
Kirtland Cutter, Architect



PLANS, RESIDENCE OF EARLE W. GARD, PALOS VERDES ESTATES

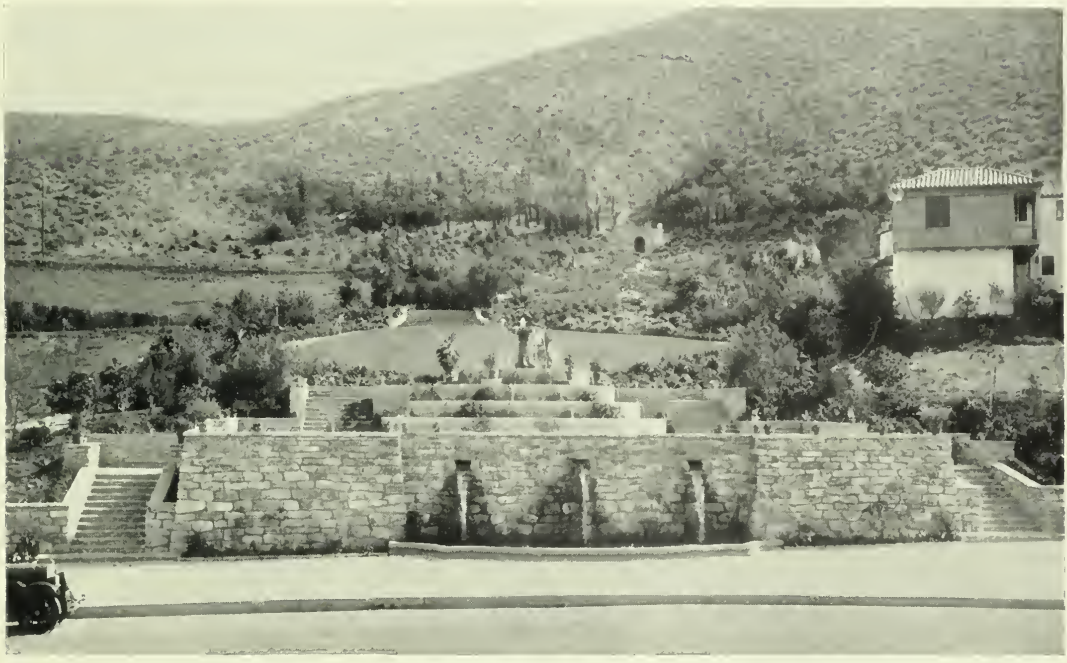
KIRTLAND CUTTER, ARCHITECT

NORTH FACADE, RESIDENCE OF EARLE W. GARD, PALOS VERDES ESTATES
Kirtland Cutter, Architect

RESIDENCE OF EARLE W. GARD, PALOS VERDES ESTATES
Kirtland Cutter, Architect
Selected as one of the most notable examples of Architecture in Palos Verdes Estates

SOUTH FACADE, RESIDENCE OF W. M. SUTHERLAND, PALOS VERDES ESTATES
Kirtland Cutter, Architect

GARDEN OF W. M. SUTHERLAND
PALOS VERDES ESTATES
Kirtland Cutter, Architect



FOUNTAIN IN FARNHAM MARTIN'S PARK, PALOS VERDES ESTATES
Olmsted Brothers, Landscape Architects

RESIDENCE OF D. K. LAWYER, PALOS VERDES ESTATES
John Byers, Architect
Selected as one of the ten most notable examples of architecture in Palos Verdes Estates by the Art Jury, 1929

NORTH FACADE, RESIDENCE OF H. LEMONT SCHMIDT, PALOS VERDES ESTATES
Winchton L. Risley, Architect

RESIDENCE OF H. LEMONT SCHMIDT AFTER GROWTH OF PLANTING
Olmsted Brothers, Landscape Architects
Selected by the Art Jury as the most notable example of architecture erected on The Estates in 1926

PATIO, RESIDENCE OF H. LeMONT SCHMIDT, PALOS VERDES ESTATES
Winchton L. Risley, Architect

RESIDENCE OF E. S. GILMORE
PALOS VERDES ESTATES

Kirtland Cutter, Architect

Selected as one of the ten most notable examples of architecture in Palos Verdes Estates by the Art Jury, 1929

ENTRANCE GATE, RESIDENCE OF JAMES E. BUCHANAN, PALOS VERDES ESTATES

KIRTLAND CUTTER, ARCHITECT

Selected as one of the ten most notable examples of architecture in Palos Verdes Estates by the Art Jury, 1929

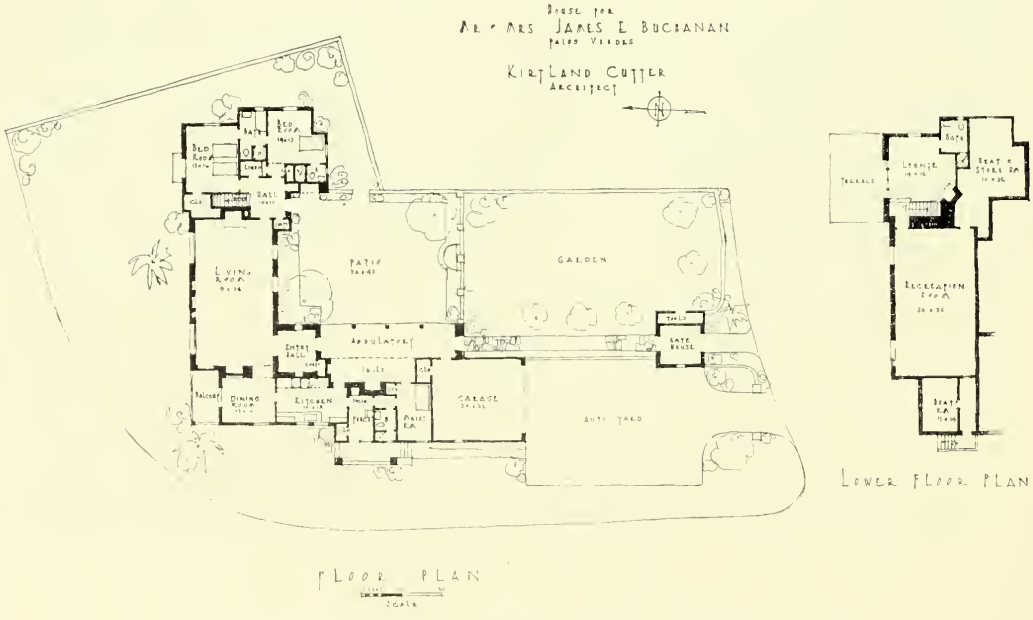
OUTER COURT, RESIDENCE OF JAMES E. BUCHANAN, PALOS VERDES ESTATES

KIRTLAND CUTTER, ARCHITECT

Selected as one of the ten most notable examples of architecture in Palos Verdes Estates by the Art Jury, 1929

RESIDENCE OF JAMES E. BUCHANAN, PALOS VERDES ESTATES

Kirtland Cutter, Architect



PLAN RESIDENCE OF JAMES E. BUCHANAN, PALOS VERDES ESTATES

Kirtland Cutter, Architect

Selected as one of the ten most notable examples of architecture in Palos Verdes Estates by the Art Jury, 1929

SOUTH FRONT, GOLF CLUB HOUSE, PALOS VERDES ESTATES
Clarence E. Howard, Architect

TERRACE, GOLF CLUB HOUSE
PALOS VERDES ESTATES
Clarence E. Howard, Architect

NORTH FRONT, RESIDENCE OF MRS. CAROLINE JOHNSON, PALOS VERDES ESTATES
Arthur C. Munson, Architect

Selected as one of the ten most notable examples of architecture in Palos Verdes Estates by the Art Jury, 1929

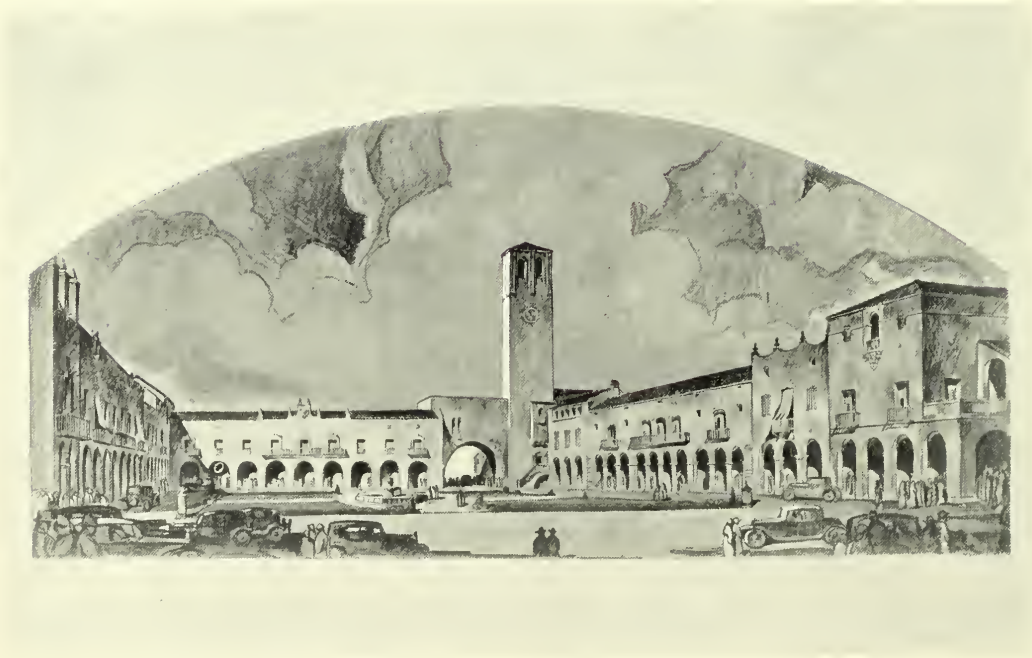
RESIDENCE ON VIA MONTEMAR
PALOS VERDES ESTATES
Kirtland Cutter, Architect

SOUTH FACADE, RESIDENCE OF MRS. CAROLINE JOHNSON, PALOS VERDES ESTATES

Arthur C. Munson, Architect

PATIO OF THE C. H. CHENEY RESIDENCE
PALOS VERDES ESTATES

Charles H. Cheney and Clarence E. Howard
Associate Architects



ADOPTED GENERAL DESIGN FOR VALMONTE PLAZA, PALOS VERDES ESTATES
Marston and Mayberry, Architects

Charles H. Cheney, Consultant in City Planning

Olmsted Brothers, Landscape Architects

THE PATIO, LA VENTA INN
PALOS VERDES ESTATES
Olmsted Brothers, Landscape Architects

GARDEN FRONT, RESIDENCE OF WM. RIPLEY DORR, PALOS VERDES ESTATES
Winchton L. Risley, Architect

REAR GARDEN, RESIDENCE OF
WM. RIPLEY DORR
PALOS VERDES ESTATES

Winchton L. Risley, Architect

Selected as one of the ten most notable examples of architecture in Palos Verdes Estates by the Art Jury, 1929

PATIO, RESIDENCE OF G. B. SNELGROVE, PALOS VERDES ESTATES
Kirtland Cutter, Architect

TWO INTERESTING VIEWS, RESIDENCE OF H. P. SHUPP, PALOS VERDES ESTATES

Arthur C. Munson, Architect

Selected as one of the ten most notable examples of architecture in Palos Verdes Estates by the Art Jury, 1929

RESIDENCE OF T. L. TAGGART, PALOS VERDES ESTATES
A. J. Williams, Architect

RESIDENCE OF F. M. HODGE
PALOS VERDES ESTATES
W. L. Risley, Architect

EAST FRONT, RESIDENCE ON GRANVIA LA COSTA, PALOS VERDES ESTATES
Winchton L. Risley, Architect

SIDE VIEW, RESIDENCE ON GRANVIA LA COSTA
Winchton L. Risley, Architect

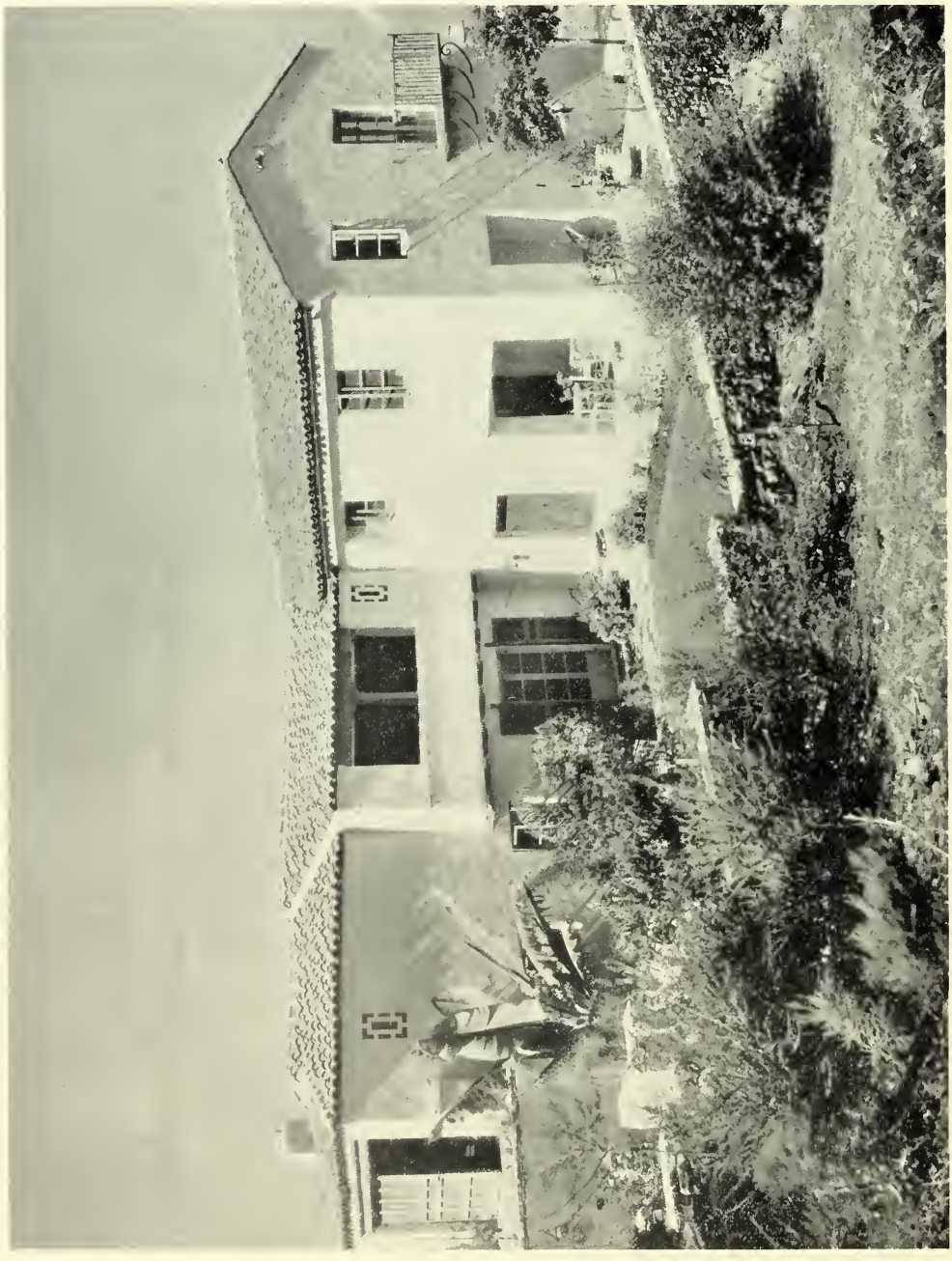
PATIO, RESIDENCE OF MR. AND MRS. HOWARD S. DEAN, PALOS VERDES ESTATES
Lincoln Mortgage Company, Designers

THE PLACING OF HOUSES IN RELATION TO ONE ANOTHER

By J F Dowson

THERE has always been and there still exists among many, the curious idea that the so-called front of a house must face the street, and because the front of the house faces the street the entrance door or "front door" must also face the street and for the same reason the "parlor" or the living room must be on the front of the house regardless of anything else. Then, because the front of the house is next to the street, the opposite side of the house must be the "back" of the house, and the kitchen and the "back door" and the "back yard" must all be to the rear even if this side of the house enjoys beautiful views and is otherwise the most desirable side of the house to live in.

Following this theory, if there happens to be any pleasant outlook, such as a magnificent view of the ocean, or of the mountains, and if the ground happens to slope toward such attractive views as is the case in many parts of Palos Verdes Estates, then the belief is that a house site on the down-



RESIDENCE OF LIEUTENANT COLONEL GERALD KINCADE, PALOS VERDES ESTATES
MRS. HELEN KINCADE, DESIGNER

RESIDENCE OF MISS STELLA SMITH, PALOS VERDES ESTATES
Winchton L. Risley, Architect

RESIDENCE OF REV. ANTON CEDARHOLM, PALOS VERDES ESTATES
Winchton L. Risley, Architect

SOUTH FRONT, RESIDENCE OF GEO. C. KINCAID
PALOS VERDES ESTATES

hill side of the street is decidedly inferior to the house site on the uphill side of the street because the house on the downhill fronts on the street, so front rooms face the street, and, therefore has no chance of enjoying the wonderful view which the house on the uphill side has because it faces the street as well as the view.

Such a belief is wrong, for there is no reason why both sides of the house should not be "front sides," and there is no reason at all why the person occupying the house on the downhill side of the street should not have his living room on the view side of the house and enjoy the pleasant outlook, fully as much as from the house which is on the uphill side which faces the street. Of course, every house should have a kitchen, it should have an entrance to the kitchen, and it should have an area or yard where materials used in connection with the house could be stored and where clothes could be dried, etc., but the kitchen does not need to be located in such a way that it cuts off all of the view from the rest of the house, and the door to the kitchen does not need to be called the "back door," and the service yard in connection with that part of the house does not need to be called the back yard or kept like a back yard.

I do not mean to imply that the site on the downhill side of the street is any better than the uphill site, or vice versa. Naturally some sites are better for various rea-

NORTH FACADE, RESIDENCE OF GEO. C. KINCAID, PALOS VERDES ESTATES

sons than other sites, but what I do mean to say is that with a certain amount of common sense and thought the house can be so arranged that both sides of the house would be front sides. The side next to the street could be called the approach front, and the other side of the house could be called the view front or the living front or the garden front. The kitchen in most cases could be placed at the end of the house and could be referred to as the kitchen end or the service end of the house, and the yard in connection should be called the service yard. According to this scheme the back or garden side of the house and grounds is a very important and a very attractive part of the place; it is not a place where you dump things from the kitchen door and allow them to be kept in disorder but is a part of your place where you live out-of-doors because it is secluded and attractive and is much more private than the front side next to the highway.

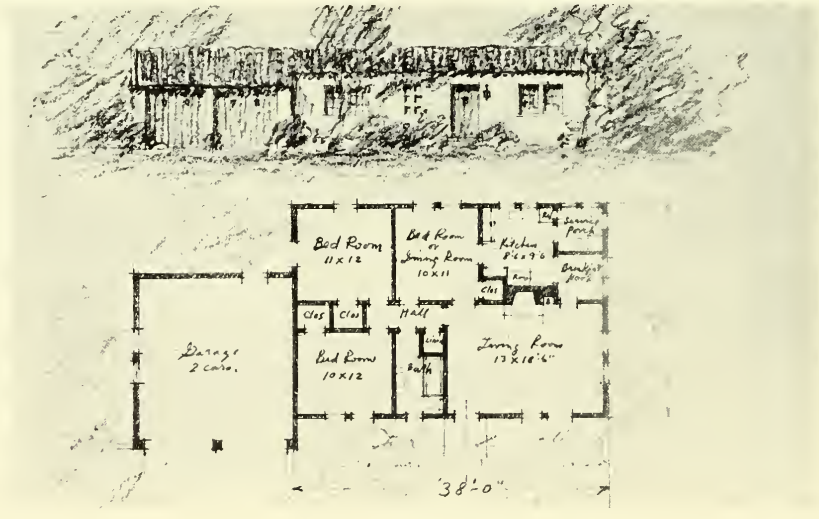
PATIO FOUNTAIN ON VIA CAMPESINA
PALOS VERDES ESTATES

In locating houses in any fairly thickly settled community it is desirable, if possible to have the service ends next to each other

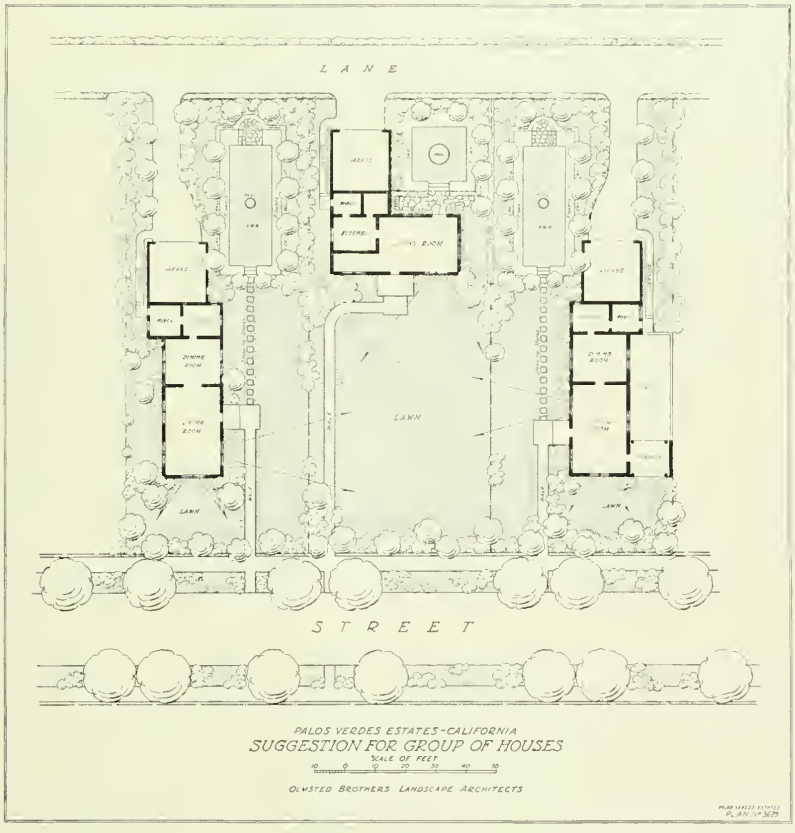
RESIDENCE ON VIA CAMPESINA, PALOS VERDES ESTATES
Lefler B. Miller, Architect

Examiner Prize House of 1925

SMALL HOUSE IN VALMONTE, PALOS VERDES ESTATES
H. Roy Kelley, Architect



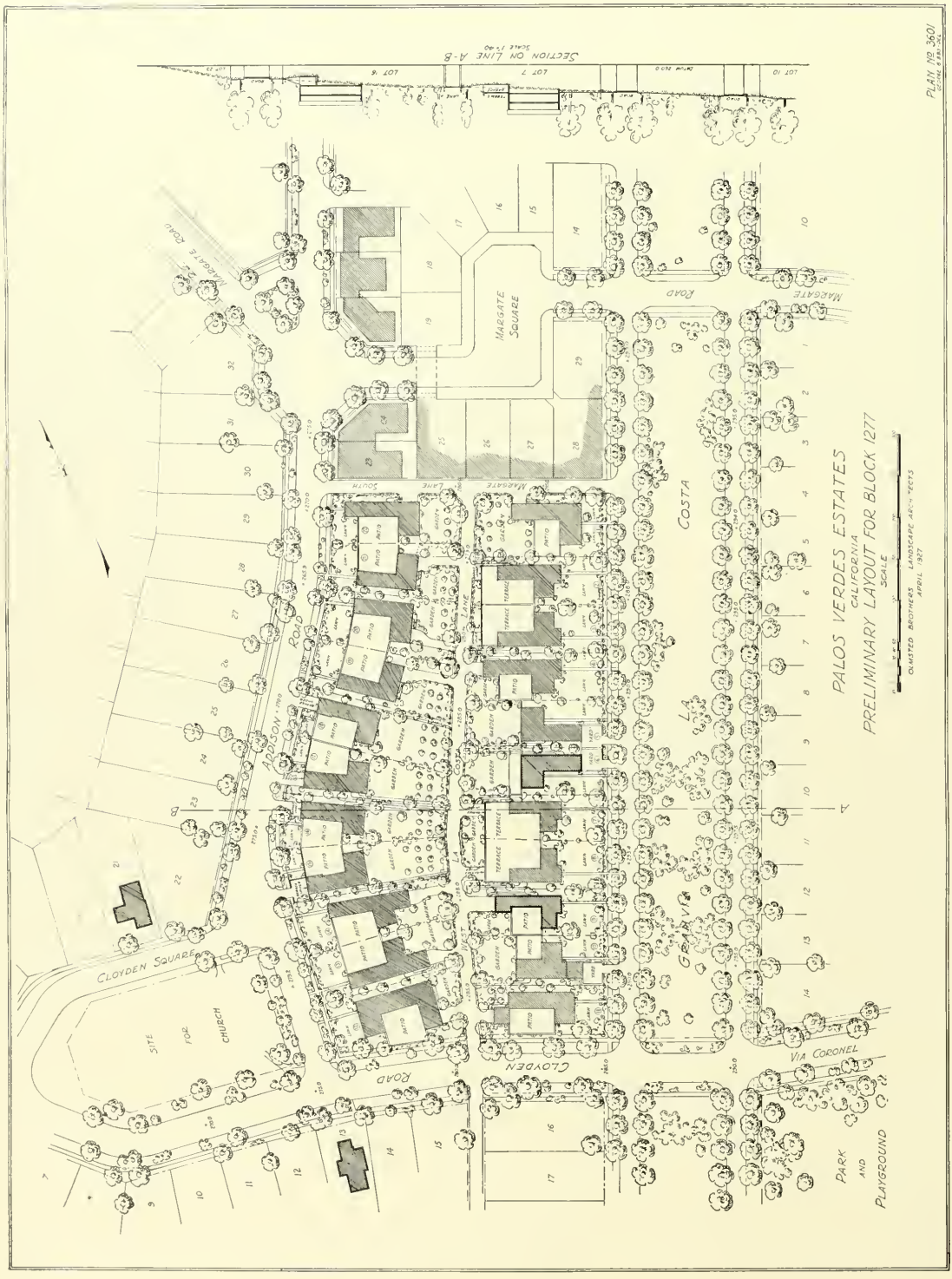
TYPICAL PLAN OF SEVEN SMALL HOUSES IN VALMONTE, PALOS VERDES ESTATES
H. Roy Kelley, Architect



PLAN A, PROPOSED GROUPING OF HOUSES, PALOS VERDES ESTATES

and the living ends next to each other; and it is often well to arrange the houses in groups, with the grounds on the living side of the house coming together in such a way that each house in the group will have the advantage of the view over all the lots, as indicated in the accompanying Plan "A." (This sketch provides for the garage entrances from a lane in the rear of the lots, but the driveways could enter from the street just as well if there were not a lane.) The grouping of houses as shown by Plan "A" is difficult to get unless the houses are all built by one person, and therefore, it is necessary when making the subdivision plans to vary the front setback or building limit lines, instead of having the setback line the same on all lots.

Plan "B" shows the various lots in one block at Palos Verdes Estates (Block 1277, northwest corner Granvia La Costa and Cloyden Road in Margate), in which two houses (colored dark) have already been built. In this block a lane is provided in the rear of the lots. The plan shows the variation in the front setback line, already provided for in the restrictions, and how the various houses could be located to give an interesting and pleasing grouping. This calls for most of the areas, in the rear of the houses, to be developed as gardens or lawns, where the occupants of each house could enjoy privacy and pleasant surroundings. Some of the garages would be under the terraces of the gardens where they would be entirely out of sight when look-



PLAN B, GENERAL GROUPING OF HOUSES RECOMMENDED BY MR. DAWSON FOR BLOCK IN MARGATE, PALOS VERDES ESTATES

ing from the houses westward toward the ocean. Other garages would be attached to the houses and entered from the street although a few would be detached and entered from the lane. It would be attractive if this were treated as an old-fashioned lane with trees and hedges planted along its boundaries.

Such a plan for the grouping of the buildings of an entire block has been actually carried out both in the development of Forest Hills, Long Island, New York, and by an individual developer (Dr. George Woodward) in Philadelphia. With the cooperation of the individual builders and the Art Jury, such a plan could be successfully carried out at Palos Verdes Estates. Naturally there would have to be certain variations and changes in details; but it is hoped that this article, with the plans, will offer certain suggestions and will encourage people when planning and building their houses to take advantage of all the opportunities and conditions, to consider the benefit to their neighbors, as well as themselves, and thereby help develop a community that will be a greater pleasure to live in.

ADOPTED DESIGN FOR LUNADA BAY PLAZA, PALOS VERDES ESTATES

Kirtland Cutter, Architect

Olmsted Brothers, Landscape Architects Chas. H. Cheney, Consultant in City Planning

HELL'S HALF ACRE, HONOLULU

EINAR PETERSEN'S SKETCHES

An Appreciation by Wm. Lee Woollett

I HAVE before me some re-prints of pencil drawings by Einar Petersen, recently on exhibition in the Architects Building, Los Angeles. In order to write at all in key with these lovely drawings I have just sharpened a thick Faber No. 2 drawing pencil which gives me a sufficiently broad and black and easy flowing line with which to describe these — "charming" — no not exactly that — something a little better — sketches made by our friend during one of his recent visits to the Islands.

Einar Petersen is known and loved by the profession for his personal qualities—the even genial quality of the man, as well as the confident and successful craftsman may be observed in these sketches.

Of all the different qualities which may be observed in an artist's work, I myself am most concerned with that quality which asserts itself in craftsmanship. Composition, color, line, quality—these may be obtained by any student. Only the years of growth and intelligent handling of the tools of a craft finally permits the untrammeled out-flowing of the abstract vital principal one seeks in a work of Art.

These drawings are even, sure, confident —as confident as is the even purr of the perfectly broken motor which makes your new automobile climb mountain curves on high.

The delightful ease of Petersen's drawings is to me their chief claim to one's interest. And because I dwell on this illusive characteristic — which I think many will agree they possess —I do not pass over the other more academic and passive phases. The compositional values are splendid — to many of his sketches the merits are outstanding for their technical form and color.

If you will study these drawings you will observe that in common with the great artists of all time there is unconscious use of

CHINESE PEDDLER, HONOLULU

PLANTATION VILLAGE, KAUAI

A FISHERMAN'S CABIN 'NEATH HAWAIIAN PALMS

the number three in the composition. Three divisions of mass—three of color values—and three of line weight and quality. This statement is a generalization, like "all the world knows" it could not possibly be literally true. In reality it constitutes a premise or thesis which may be used as a basis for a real enjoyment in the study of the sketches.

At first glance these drawings are incredibly simple. But also like the Persian Rug or a "Barye Lyon" they disclose a more intricate pattern upon investigation. You can amuse yourself, if you will, in picking out the various values in terms of three, in this or any other work of Art.

The sketch entitled "Honolulu—1929" is "unlight" an elegant and stirring sunlight which gilds with a "glamour" the homely surroundings of the shack, dilapidated and torn with decay.

"A Chinese Pedler" is also as full of sunlight as it is empty of conscious effort.

"Hells Half-Acre," like many others, illustrates Petersen's command of decorative forms. He has wrought into this sketch a rare decorative pattern (of course utterly unconsciously). I would like to see this one done in color—a stage set perhaps.

After all life is not altogether what it seems. And to illustrate the point of my appreciation—that is, the idea that it is the way we do things and not what we do that counts, I must tell a war story—utterly irrevelant to Art and yet not so, perhaps, for some.

It was the custom of the English in the war to replace higher officers rather than to promote from the lists of junior officers. On the day in question a brigade had lost its colonel in action—a new colonel had crossed the channel and was on hand ready to take over his command as the bedraggled, muddy, wounded and wrecked detachments came out of the rain-filled trenches. He stood there with a monocle in his eye as the tired men filed past and came to attention. The colonel was a pink-cheeked youth—his belt and buckle and puttees were shined to the "nth" power. He was perfection personified. These tired men who waited were aghast—they slumped, they broke rank and lolled. Some took pennies out of their pockets' and put them in their eyes—monocles—like the one the new colonel wore. The youth gazed down the line of disgusted, grinning men. Then slowly took the glass from his eye and stood carefully wiping it with a new white hand-

HONOLULU, 1929

kerchief. Then he snapped the glass into the air a good ten feet—gave a quick jerk to his head and caught the thing in his eye. "Do that you bally devils." The sagging line drew itself into formation. The orders came quick—the men found themselves. The new colonel died in action the following day. The English lad was an artist, for with consummate skill he had made a beautiful and dramatic thing of a simple act.

Einar Petersen has flung off these simple little sketches with the touch that spells beauty!

BOWLES HALL, UNIVERSITY OF CALIFORNIA, BERKELEY
GEO. W. KELHAM, ARCHITECT

Photo by Moulin

THE NEW ARCHITECTURAL MEDIUM CONCRETE

By Frederick A. Hanson

IT is not wholly surprising that in California, the land of many unusual things, a significant architectural development should have taken place within recent years. For there is an eager vitality about the architecture of California. It grows. It expands. It tries new things. It is sensitive to new impressions. Not that it is lacking in appreciation of older forms and media nor that it fails to value the tried and the proven — it is simply that here the architect proceeds to try and to test new forms, and if he finds them good, adopts them.

So it is that concrete — a powerful structural medium — has been adopted by Pacific Coast architects and transfigured to serve their purposes. A very remarkable transformation, this, but after all, a logical one. For there is beauty in honest strength. It remained only for architects to understand and develop the infinite possibilities of concrete as a medium for architectural expression.

It is indeed a major event, the coming forth of concrete into a primary architectural position. It places at the command of the artist a material of very great adaptability and it presages much in the improvement of concrete itself. As a structural material it achieved an extensive use years ago but, as with other materials, it began in a lowly utilitarian station. The dignity, nobility and aspiration of the recent ecclesiastical uses of concrete are not to be found in its beginnings.

Hitherto, the fact that concrete was either to be concealed, by interior plaster or by exterior veneers, or was left indifferently exposed to view on alley or property line, led to carelessness in construction methods, to slipshod formwork and sloppy mixtures that many times were appalling in their ugliness.

DETAIL, COURTYARD, STUDIO BUILDING, LOS ANGELES
Morgan, Walls and Clements, Architects

Who has not seen the story of carelessness written in concrete walls? Slatternly form marks, laitance streaks and gravelly blotched areas are eloquent of the time when these walls engaged the labor but not the understanding of men. Again, on the other hand, who has not seen walls which, though devoid of relief and as economically flat as a pancake,

EDITOR'S NOTE—Mr. Hanson is Architectural Supervisor of Forest Lawn Memorial Park, Glendale, California.

Photo by Hawthorne Studios

WILSHIRE PROFESSIONAL BUILDING, LOS ANGELES

ARTHUR E. HARVEY, ARCHITECT

yet in the sound, unvarying quality of their concrete and in the impressed record of the forms, testify to work done with all the skill and with all the spirit which good workmen have ever shown?

Needless to say, it is only with concrete of the latter quality that the new developments are concerned; in fact it is only with concrete of sound unvarying quality with which they can be executed. The concrete must be of a uniform character. It must completely fill the forms. The mixes must be plastic yet excess water content, with its inevitable separation of materials, cannot be tolerated. Well-graded mixes, maintained or adjusted to a constant water content, are necessary to achieve that fundamental uniformity of concrete quality which is essential for the accomplishment of satisfactory results.

It is with concrete of such a character, the physical nature of which is not different in one part of the work from its nature somewhere else in the structure, that the successful new work has been done. Plastic, mobile, sensitive to the most trifling variation of form and surface with which it comes in contact, yet in a few hours losing these properties forever, here is a material to engage the interest and fascinate the imagination. With textures and surfaces fresh with the natural variety of form boards, with random slight imperfections of plane and with line warm with the suggestion of human hand and touch, with simple or elaborate ornamentation made integral with the structure by the use of simple wooden or more elaborate plaster molds, and with an incomparable adaptability to mass effects, concrete has attained an architectural development and recognition warranted by its own inherent worth. It may be "fashioned to the heart's desire."

Yet another impelling reason for its use is the satisfying honesty and sincerity of this construction. It is the structural frame itself which stands revealed, unconcealed and unashamed, and upon which the architect exercises his ability of shaping mass, line and ornament. It is the structural frame which meets the eye, not that which appears to be the structural frame. In what indefinite and subtle manner this distinction between the actual and the apparent is expressed is not always easy to explain but the distinction, none the less, exists and declares itself. It can be for no other reason than that, from its beginnings, architectural criticism has ever emphasized the virtues of honesty and sincerity in construction.

Happy the man who may work unrestricted by the limitations of financial allotments. But to those who have felt the constraint of purse strings — and who has not? — the new uses of concrete offer a welcome freedom and relief. Some price must of course be paid for improved concrete quality, for a better grade of form lumber, for more careful, skillful carpentry. But all these additional costs amount to no more than the cost of plastering and covering up a carelessly constructed concrete job. In comparison with equally pleasing results obtained with other materials, the cost of exposed concrete has much to commend it.

Regarding the forms, a few words may be desirable. That the lines of the forms which appear in the concrete should possess a parallelism, whether horizontal or vertical as the case may be, is plainly apparent. Where a good surface is desired, a better grade of form lumber free from knots, slash grain and similar imperfections is required. Particular care must be exercised when work resumes at a horizontal construction joint to avoid an expansion and bulging of the forms immediately above the joint which would result in a correspondingly unsightly bulge in the concrete revealed when the forms are removed. Particular care must also be exercised with the forms at such horizontal construction joints to be sure that they are tight and do not allow the escape of fines from the freshly placed concrete.

Where smooth surfaces are desired, enlivened and redeemed by small scattered air or water pockets, forms lined with non-warping fiber board give excellent results. Particularly is this true where a rustication of the surface allows the jointing between the fibre board sheets to be covered by the tapered wooden strips which form the joints of the rustication.

Where special surfaces of not too deep relief are wanted, wood forms shaped to the

Photo by Mott Studios

RICHFIELD OIL BUILDING, LOS ANGELES

MORGAN, WALLS AND CLEMENTS, ARCHITECTS

Photo by Mott Studios

DETAIL OF WINDOW, FIRST BAPTIST CHURCH, LOS ANGELES

ALLISON AND ALLISON, ARCHITECTS

Photo by Mott Studios

DETAIL OF DOORWAY AND WALLS, ST. JOHN'S CHURCH, LOS ANGELES

PIERPONT AND WALTER S. DAVIS, ARCHITECTS

Photo by Mott Studios

CHURCH OF THE PRECIOUS BLOOD, LOS ANGELES

HENRY CARLETON NEWTON, ARCHITECT

Photo by Mott Studios

DETAIL MAIN ENTRANCE, EBELL CLUB, LOS ANGELES

HUNT AND BURNS, ARCHITECTS

Photo by Mott Studios

DETAIL IN PATIO, EBELL CLUB, LOS ANGELES

HUNT AND BURNS, ARCHITECTS

desired contour, shellaced and oiled, are used. For the more elaborate ornament, plaster moulds, shellaced to prevent absorption and to assure cleancut removal, are by their wooden frames incorporated into the other form work.

Exposed concrete has not yet itself attained a variety of color and tone, when used en masse, comparable to the variety of surfaces and textures which have been developed for it, but it may be stained or, with cement washes, may be given almost any desired color. Some of the newer work has not sought to obtain anything other than the natural concrete color, the warm grey of which blends admirably with the green of shrubbery and vine. An example of the use of a thin wash color coat is the Ebell Club, on Wilshire Boulevard, Los Angeles, the work of Hunt and Burns, built in 1927, which was colored a soft tone of reddish buff.

Two very interesting new developments in concrete exteriors appear in the Richfield Building, by Morgan, Walls and Clements; and in the Wilshire Professional Building by Arthur E. Harvey. In the Richfield Building, the brilliant black and gold terra cotta of the main facades was duplicated on the north and west property line walls with concrete moulded to conform in true shape lines with the fluting of the terra cotta, and colored by the application of china wood oil and mineral pigment. Except for the absence of the joint marks, which characterize the terra cotta exterior, there is little difference apparent between the walls of these two very dissimilar materials.

In the beautiful new Wilshire Professional Building, the exterior is done entirely in monolithic concrete, with integral molding of the modernistic ornamental courses, and fiber board forms used elsewhere. The spandrels are darkened behind the silvered iron grills and the entire exterior has been given a clear white color, with the light upon the round corners of the columns accentuated by a silvery coating of aluminum leaf.

The beautiful new mausoleum at Forest Lawn Memorial Park, now under construction, will, when completed, be one of the finest and costliest structures of its kind in the world. No expense has been spared to make this building of the most substantial character befitting its nature. It was the enduring character of properly made concrete and the assurance of permanence which could be expressed in the architectural design, that led to the selection of concrete, exposed and uncolored, for the execution of this work.

It is hazardous to prophesy, yet it would appear that this architectural use of concrete will soon find a general and wide acceptance. That this should be is but the logical consequence of proven and demonstrated success.

AMERICAN CITIES 90% UGLY

TO eliminate "the careless ugliness" of the nation's cities, the American Institute of Architects has started a campaign of public education in "good architecture and good environment." Moving pictures are being employed to illustrate how Washington is being developed as the city beautiful.

In high schools and colleges, and before chambers of commerce, civic bodies, women's clubs, art bodies and other organizations, films are portraying the architectural advance of the national capital as a model for the nation.

American cities are "ninety per cent ugly," and the result is enormous waste and depreciation, according to Charles H. Cheney of Palos Verdes Estates, California, chairman of the Institute's City and Regional Planning Committee, which is striving to stimulate an awakening in behalf of better architecture.

"The seriousness of the situation lies, however, in the fact that the percentage of new buildings, really esthetically good, is not increasing," Mr. Cheney says. "In some cities it is even decreasing. The building inspectors tell us they are getting fewer plans today than formerly by men trained to produce good design.

"It is unthinkable that a rich country like this will long continue to allow such needless ugliness to be hung like a millstone about our necks. The same amount of buildings could be built attractively for the same money or less.

"Sound city and regional planning, that takes carefully into account the esthetic factors of city building, as inseparable from the economic and social factors, would soon produce different results. Much more use of trained city planners should be made by city planning commissions, and every such commission should have an architect as a member because architects have special knowledge of how to produce attractiveness in city building.

"Zoning and major street plans are important, but they are but a small part of city planning. The widening of major streets for the new motor age is everywhere cutting down trees and leaving our cities uglier than ever. Such city planning is not sound unless provision is made in the same or parallel proceedings for the replanting of the street trees. Ruthless disfigurement of this kind, if caused by the neglect of a city planning commission or city engineer or city council, should be sufficient cause for removal from office.

"A major traffic street plan which neglects or overlooks the necessity of maintaining important vistas, of purposely shifting over to make opportunity for location of important buildings and groups 'on axis,' of providing for arcading or of harmonious block treatment of downtown architecture, of group planning in residence as well as business districts, is no solution of the city plan.

"Zoning ordinances and building codes have more effect on architecture and landscaping than other agencies. The glorious new architecture of New York, caused by the New York zone ordinance in its step-back provision for light and air, is one profound esthetic result of the city building of our time.

"Few people know that these regulations were deliberately worked out by some of our greatest architectural thinkers, who had the esthetic importance of such regulations well in mind at the same time as the economic and social objectives of zoning.

"One of the greatest blights of our cities, one of the biggest and hardest problems to be solved, is that of the disfigurement and upset to surrounding property caused by railroads and other transportation agencies. Great economic losses ensue, with depressing and deteriorating influence upon the poor creatures of humanity who generally drift to the depreciated neighborhoods along railroad rights of way.

"There is also great loss of time and inconvenience to whole cities by misplaced or outgrown yards, terminals and other facilities, that proper co-operation and planning on the part of public and carriers, could make wholesome, esthetic and compatible with the reasonable amenities of life.

"And so through all the items of the master plan the human equation—that subtle thing that reflects and controls men's souls, the esthetic—can and must be provided for.

"There is much yet to be done in Washington to change it from only twenty-five per cent of a city to something nearer seventy-five or eighty per cent and the capital Park and Planning Commission should be upheld in the work it is doing to this end.

"President Hoover's recent appointment of William Adams Delano of New York City to this Commission will meet with the approval of the country. Mr. Delano's long service on the Fine Arts Commission of Washington, and his untiring interest in the development of the Capital, have well prepared him for constructive service on the more active Capital Planning Commission."

"BUILD NOW," SLOGAN FOR ARCHITECTURAL PROFESSION

"BUILD NOW!" is the slogan of the architectural profession, according to C. Herrick Hammond of Chicago, president of the American Institute of Architects, who, in a statement issued through the Institute's Committee on Public Information, declares there is every reason to believe that 1930 will be a good year.

"Costs are lower today than for several years, and those contemplating construction should be advised by the architect not to delay," according to Mr. Hammond.

"The outlook for 1930 in the construction industry is difficult to forecast. However, in all probability, the first quarter of the new year will show an amount of building construction somewhat less than the corresponding quarter of 1929. This loss will, with reasonable certainty, be overcome and the total volume of construction for 1930 should be equal to, if not in excess of, 1929."

Reports from leaders of industry to the Advisory Council of Business established at the suggestion of President Hoover show, Mr. Hammond says, that most of the large corporations in the country have extensive programs calling for expansion in excess of that for 1929. These enlarged programs, he points out, will contribute largely toward an increase in the volume of new construction for 1930.

"The Federal Government," Mr. Hammond adds, "will do its share in maintaining the stability of business by advancing its construction activities beyond the point originally planned both in the national capital and throughout the country.

"Money formerly diverted through speculation from construction loans should be available for permanent improvements. There should be a stabilized market for both labor and materials — with labor doing more work per day than has recently been the case."

Mr. Hammond made public a report submitted to Secretary Lamont of the Department of Commerce outlining the co-operation available to President Hoover through the sixty-five chapters of the American Institute of Architects in all sections of the United States.

"The position of the architect and the exercise of his function with respect to building operations under modern conditions are of fundamental importance in the development of any program which is concerned with the construction industry," Mr. Hammond told Secretary Lamont.

"In twenty-seven states of the union no building can be erected unless a registered or licensed architect is engaged. Seventy per cent of the buildings in this country costing $75,000 and upwards are designed in offices of members of the American Institute of Architects.

"The architect is the co-ordinator in the building operation, be it large or small, and his advice on when to build, and when not to build, is of great weight with the investor, the home builder, and the banker.

"The architect is in a key position and should be encouraged, at this time, to say to private individuals or interests who may have projects in mind that the immediate future is a good time in which to build, because it can be demonstrated that building is now cheaper than it has been in past years.

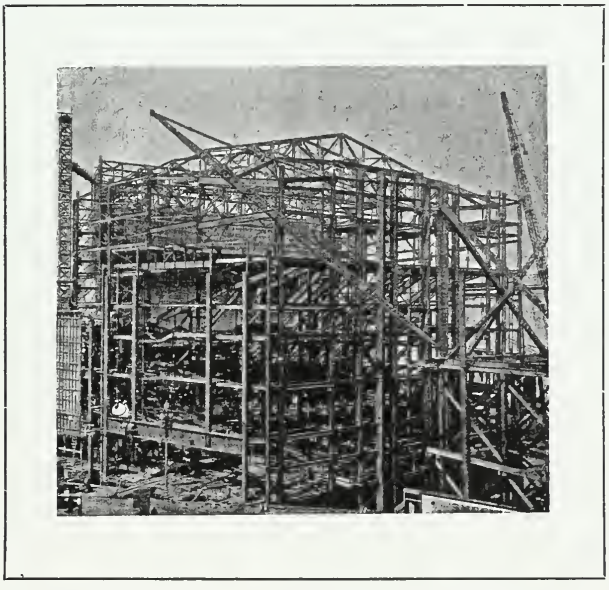
"The American Institute of Architects, through its sponsorship of the Architects' Small House Service Bureau, which Bureau was fully endorsed by President Hoov-

[Please turn to Page 110]

ENGINEERING

and

CONSTRUCTION



STEEL FRAME, FOX THEATER, SAN FRANCISCO
L. H. Nishkian, Structural Engineer

Featuring

The Steel Frame of the New Fox Theater,
San Francisco

STRUCTURAL FEATURES of the NEW FOX THEATER, SAN FRANCISCO

By John J. Gould, S.E.

THE new Fox Theater* at Market, Hayes and Polk streets, San Francisco, occupies a ground area of about 40,000 square feet. The building, seating 5000 persons, was completed in June, 1929, at an approximate cost of $2,000,000. It is owned by the Giannini interests which leased it to the Fox Theaters Corporation.

In so far that provision had to be made for future extensions, the design of the structural frame for the theater presented problems of unusual interest. The building was planned so that ten stories of office or hotel space may be added above the auditorium and a 20 story building on the remainder of the block.

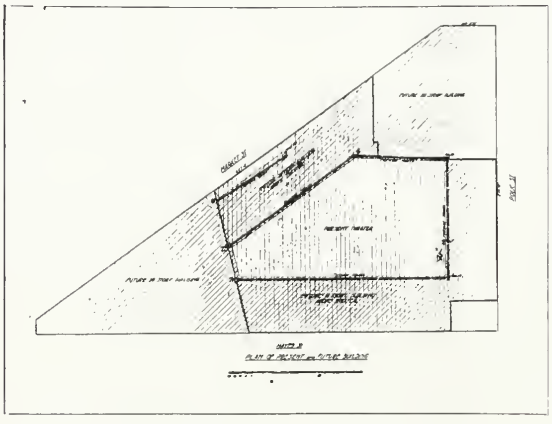
The theater is of the Class A, steel frame and concrete type. The exterior walls are six inches to ten inches thick of reinforced concrete, faced with travertite stone.

Although the soil conditions would have permitted the use of spread footings as a means of transferring the loads directly into the ground, concrete piles 20 to 30 feet long, poured in place, were used. This solution was decided upon after a careful cost analysis, which showed a distinct advantage in favor of concrete piles.

It was found that if piles were not used, spread footings would have come so close together that the footing at the lowest level would have brought practically all others to considerably lower levels than now built. This also would have made it necessary to carry all foundations below the water level and would have required sheet-piling of the whole area. Other factors, like the presence of exceptional column loads, together with great variations in the basement floor levels, favored, from the standpoint of economy, the use of concrete piles.

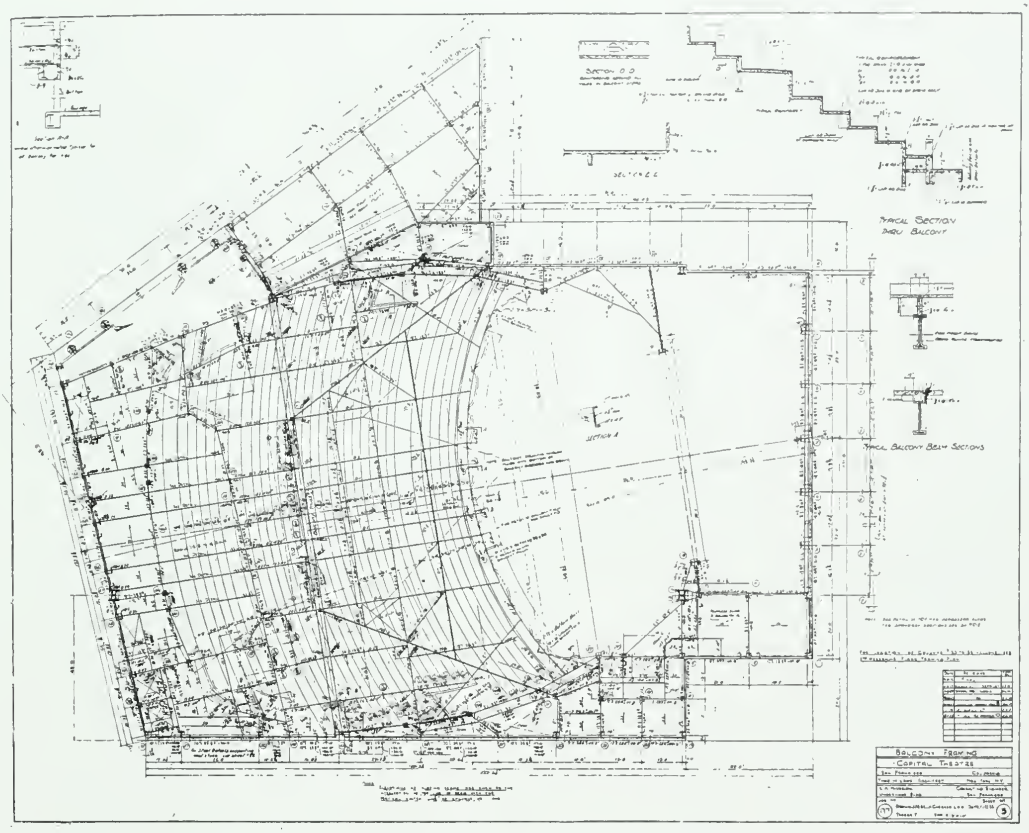
All basement floors and walls subject to water pressure were waterproofed by treating the interior surfaces with a mixture of iron and cement composition after the concrete was poured.

First floor construction is of reinforced concrete joists supported by steel beams.



PLOT PLAN, SHOWING PRESENT AND FUTURE FOX THEATER BUILDINGS

*Pictures of the interior appeared in this magazine in December, 1929.



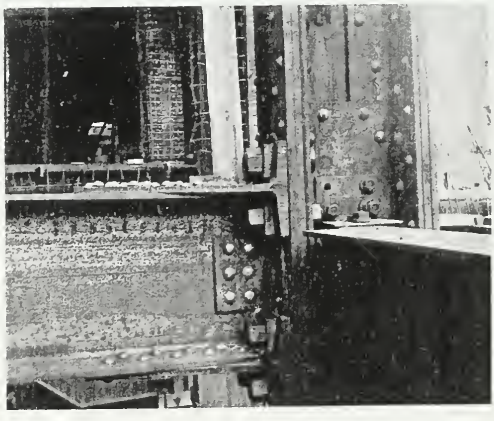
BALCONY FRAMING, FOX THEATER, SAN FRANCISCO
L. H. Nishkian, Structural Engineer

Over the plenum chamber, supporting the main auditorium floor, a seven inch reinforced concrete flat slab was provided. The stage floor was designed of removable steel beams and wooden joists.

The structural design of the balcony framing was of unusual character, as a seating surface of 90 by 160 feet had to be provided, without supporting columns below. The mezzanine floor, 30 feet wide, was also supported by means of hangers from this area. The general layout of the balcony framing is shown in the illustration.

The main balcony truss weighs 160 tons, has a depth of 20 feet and a span of 145 feet.

The fulcrum girder PG-1, is 110 feet



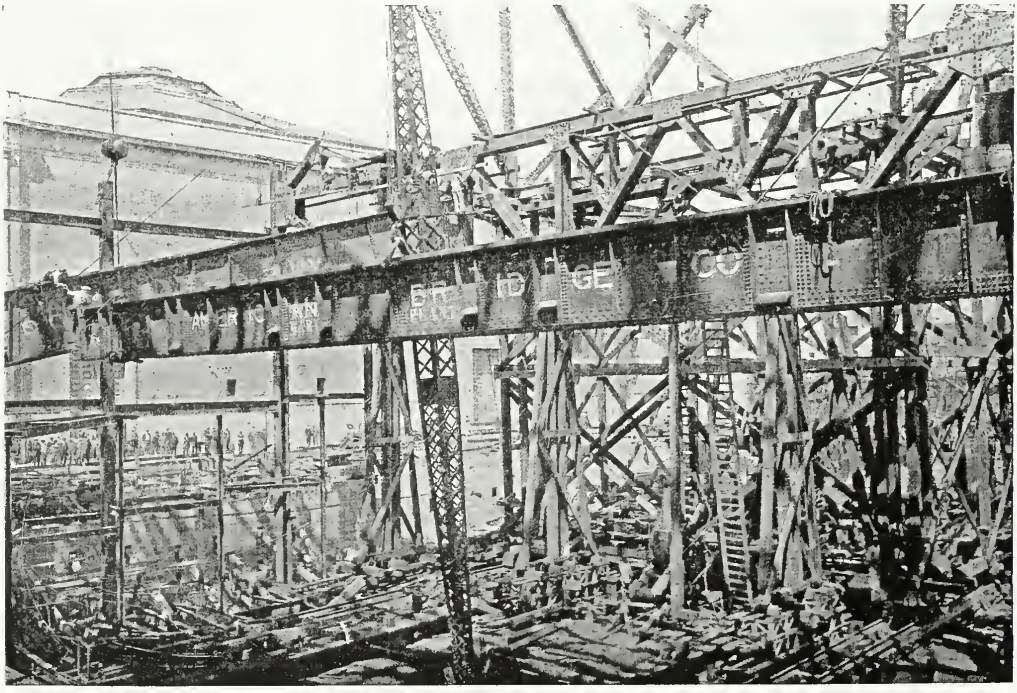
TYPICAL VIEW OF BEAM WIND CONNECTIONS TO COLUMN, FOX THEATER

long, six feet, six inches deep, weighs 70 tons, and was shipped and erected as a single piece.

In comparing the calculated accumulated deflection at the front end of the balcony cantilevers, in the center of the span, to the difference in elevation taken before and after pouring the concrete, it was found that the calculated deflection, neglecting any stiffening effect of the concrete, was about three and one-half inches. The actual measured deflection was approximately three inches which represents 1/640 of the span or width of the auditorium.

The roof framing consists of trusses, of an average span of 150 feet, their structural members being H and I beam sections. Reinforced concrete joists form the supports between the trusses. The central dome features of the ceiling are supported on a structural steel frame while the remainder of the ceiling was hung from the roof joists by wires fastened to the ceiling channels.

The majority of the columns were built up of angles and plates, and have I shaped sections. However, for columns carrying more than 3,000,000 pounds, special shaped sections were designed. One of the columns, calculated to carry 9,600,000 pounds of future load, has an area of 645 square inches and weighs 2200 pounds per foot.



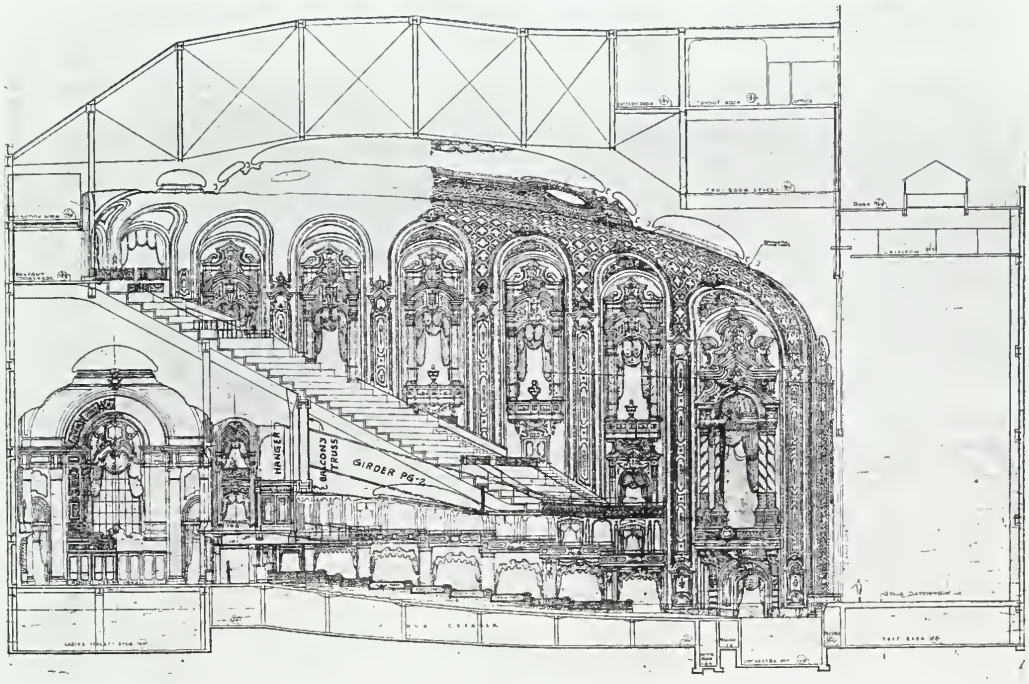
MAIN BALCONY GIRDER AND TRUSS, FOX THEATER, SAN FRANCISCO
L. H. Nishkian, Structural Engineer

In designing the frame, particular attention was given to wind loads and possible earthquake forces. While the high, practically solid exterior concrete walls form in themselves an effective means of resisting horizontal loads, diagonal steel X bracings were also provided. This was done in order to give the building more resistance against lateral movements and to satisfy the San Francisco Building Ordinance which considers concrete walls as filler walls only. The structural frame was designed without considering the resistancce of the masonry

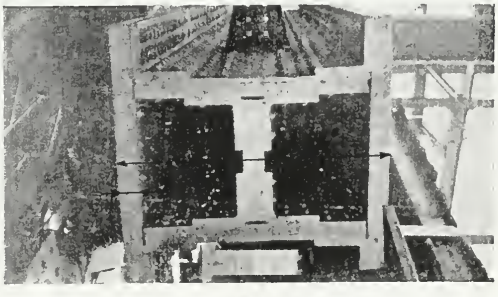
walls, for a wind pressure of 15 pounds per sq. foot. This resulted in beam connections to columns being designed to develop 60 per cent of the moment of resistance of the beams in the direction normal to the curtain and 100 per cent in the direction parallel to the curtain.

Contrary to the generally accepted methods of steel building erection, i. e., erecting in horizontal layers, a procedure was chosen by the steel contractor by which complete vertical units in successive steps were built. This was done by means of a traveling crane on which were mounted two stiff-leg derricks. This equipment had been in use for the erection of the Carquinez bridge, Carquinez Strait, California.

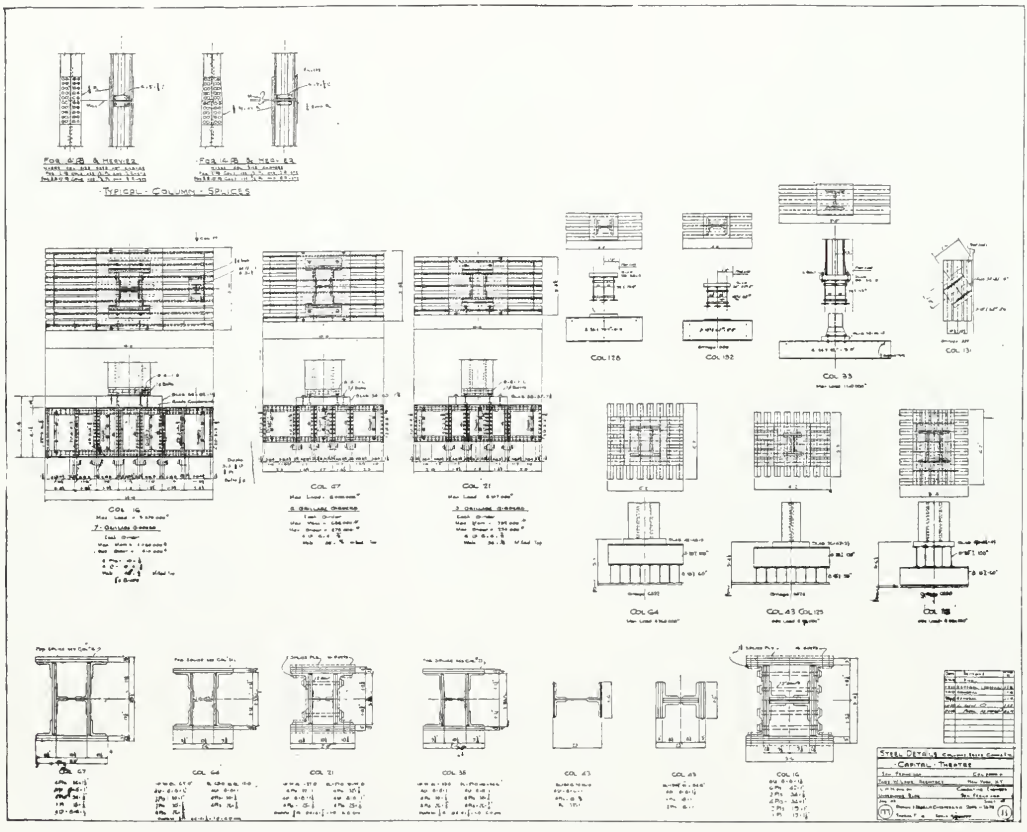
The architects of the theater were: Thomas W. Lamb, Inc., New York, and H. A. Minton, Associate, San Francisco. The writer was in charge of the structural design under the direction of L. H. Nishkian, Consulting Engineer, San Francisco. Charles T. Phillips, San Francisco was the Consulting Mechanical Engineer and John Novelli represented the owners as Superintendent of Construction. MacDonald & Kahn were the general contractors. The structural steel was fabricated and erected by an eastern steel company.



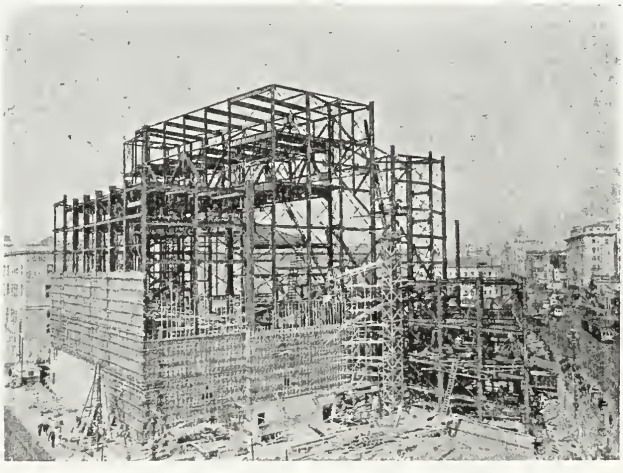
LONGITUDINAL SECTION OF AUDITORIUM, FOX THEATER, SAN FRANCISCO
L. H. Nishkian, Structural Engineer



SECTION OF COLUMN NO. 16, CARRYING 9,600,000 LBS.



STRUCTURAL STEEL DETAILS, FOX THEATER, SAN FRANCISCO
L. H. Nishkian, Structural Engineer



STEEL FRAME, LOOKING TOWARD STAGE, FOX THEATER, SAN FRANCISCO

EDITORIAL CHAT

THE value of careful and competent planning on a large suburban development project is nowhere better shown than in the Palos Verdes Estates, illustrated in this issue. Here everything has been provided for in advance, and the great master plan carried through in its entirety without deviation. Good architecture is assured by the establishment of a permanent, endowed art jury, with veto power over the design and color of all buildings. That essential background of intelligent planting which must be counted upon to frame good architecture has been encouraged and insisted upon. The Project itself has an ultimate budget of approximately $1,000,000 for the planting and enrichment of parks, parkways and sidewalk areas with fine varieties of flowering trees and shrubs. Each piece of improvement as it comes along is a delicate link in a beautiful chain, each part of which enhances the other.

The protective restrictions are complete and effective, yet have reasonable methods of amendment. A good building code and inspection service was set up at the beginning so that there is none of the usual bad construction, bad wiring and bad plumbing to be found on this project, although it is out in the incorporated area of the county. In other words, complete town specifications were arrived at with the town plan and instead of finding himself thwarted and hampered as in most places, the architect and the landscape architect can design and build freely and appropriately in the secure knowledge that no neighboring eyesore will be allowed to go in later to depreciate or inharmoniously deteriorate the carefully wrought product of his professional ability.

What the architectural control so ably being carried on by Palos Verdes Art Jury has done for that community may also be accomplished for many other beautiful parts of California—in fact must be done if we are to have any communities of distinction. The charge that "Americans universally befoul their nests" with ugly structures and ugly signs, and that we tolerate and maintain the ugliest cities in the world, will remain true until architectural control and wiser town planning become a more universal practice.

* * *

SEVERAL letters to the Editor, following the publication of articles in the November issue of this magazine on Adobe Construction, would indicate that there is still a great deal of interest being taken by the profession in this type of building. A letter from J. D. Long, Division of Architectural Engineering, University of California at Davis, recites the writer's enjoyment in reading these articles. Mr. Long agrees with the authors that adobe construction is worthy of further study and use, particularly in California where it has such an interesting and historical precedent. Mr. Long states that he has recently prepared a bulletin on the subject which readers of this magazine may obtain by addressing him, care of the University Farm, Davis, California.

* * *

THE late Thomas Hastings of New York and some of his more worthy contemporaries, established a Spanish precedent in Florida architecture which deserves to be followed.

In Florida, as in California, the Spanish style of architecture is particularly fitting. It suits the broad expanses of lowland and sea, tropical verdure, and open sky. It is adapted to the climate, and was developed in a climate much like that of Florida. San Antonio is also following Spanish precedent. At Charleston one finds precedent being followed again, but in the Carolinas it is colonial. They are building beautifully along those lines at Charleston. Of course colonial architecture is not a California or a Florida heritage, and is not as fitting in these states as is the architecture brought from Spain. In Tampa there is a large Spanish population, which makes the Mediterranean architecture even more pleasing.

The ARCHITECT'S VIEWPOINT

¶ *Just What Does Constitute an Architect—Lawyer, Builder, Engineer, Decorator?*
¶ *"Institute" to Tackle Modern Architecture.*

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CARLETON M. WINSLOW . *Los Angeles*
HAROLD W. DOTY . . . *Portland, Ore.*
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IT WAS several years ago! The stranger sitting next to me at dinner, having soon proclaimed the Law as his calling and I having confessed to Architecture, the next stage of conversation ran something like this:

Lawyer: "Has it ever occurred to you that a major part of present day architectural practice is a matter of law?"

Architect: "Quite a considerable part." (An impressive silence, then)—

Lawyer: "Isn't it probably true that the men best prepared to be architects are trained lawyers?"

Architect: "Almost thou persuadeth me"—except for the fact that most of my engineer friends *know* that the only persons qualified to be architects are engineers — while one friend who, as the wife of an architect and the sister of another, should surely know, tells me that the only person of *her* acquaintance fit to be an architect is a certain plumber.*

* * *

AND now they are "at it again," attack and counter-attack, as to the competence of architects to practise architecture. This time, the immediate provocative is the publication in *The Nation's Business* of an article written by a contractor. The author happened at the time of writing to be president of the Associated Contractors of America, and there be those who will think that by virtue of his office he expresses himself from first hand (if not first class) knowledge. The "general public," when it read him, will not have known that Mr. Flagler has either overlooked, or did not comprehend some of the should-be obvious factors that make or mar a building enterprise. Nor do some published "answers" to Mr. Flagler quite get at elementary facts.

Can Mr. Flagler, or any other informed person imagine that one man or one firm, makes a building, with, let us say, the exceptions of a dog kennel or a doll house? If, as a builder, he has *built* he should know a building operation, in its every stage, to be an example of cooperation, delegation and inter-dependence to the last degree. His assumption seems to be that relatively few building operations turn out well and, by inference, that those few successes are in spite of slovenly or unintelligent, or worse, practises of architects—which defaults Mr. Flagler assures us, in his wisdom, he might easily rectify give him the chance. There is a background of fact to some of his statements but in none of his deductions can we agree.

In every operation there are three "head men." Where these three, viz. owner, architect and contractor—all really competent—have met in common operation (which, it may sadly but truly be observed is seldom the case) the evidence will be found in a successful result. This in spite of the handicap upon each of the three "heads" in that he has had to delegate so much detail to others.

By way of particular, rather than general, condemnation of architects, Mr. Flagler worries over his belief that steel (or concrete) frames should be determined and com-

*Name withheld awaiting payment of the usual advertising rates.

pleted first, the "architecture"—whatever this term may mean to him—being somehow attached thereto. The President of the Associated Contractors has much, if not all, to learn about architecture!

From the points of view then, of lawyers, engineers and contractors—or let us hope it is only some of each category—architects might just possibly be permitted to do the pretty pictures. Just as we are becoming case-hardened against the estimates of all the "practical" men and mildly adjusting ourselves to being "artists" (always spoken with the accent of pity) we find ourselves between two barrages.

* * *

THE artists will not have us, either! The new fire comes from one we had looked on trustingly as a friend. *House and Garden* (January) deplores, just deplores the activities of architects as "decorators." Again we pause to wonder: What does the term "decorator" mean! "Why," we are plaintively asked, "do they (architects) hold to the strange notion that Heaven has endowed them with more talents than those who are specially trained?" And again—"in some (houses) the architectural backgrounds of the rooms—the paneling and such *which fall within the architect's province* (italics ours) are splendidly conceived and executed."

This writer wonders about that "special training." So now, let us ask one! Why is it not conceivable, even to the anonymous writer in *House and Garden,* that the architect certainly being no less "specially trained" than are the, too often, lady-like ladies and gentlemen who gasp over "drapes"—*is* "specially trained." A "four *months* practical training course" in "Interior Decoration" (vide, the same, page 47) with the publishers implied endorsement, can scarcely compare with the five to eight *years* given to training in design, theory and practise by the real architect. Do any of you recall Robert and James Adam, Mansart or Gabriel calling themselves "decorators?" Stanford White, John Russell Pope, Bertram Grosvenor Goodhue, George Washington Smith, Wilson Eyre—"decorators?" Hardly! But this writer cannot recall any works by specially trained "decorators," or "landscape designers" either, that surpass (they very rarely equal) the "decoration" and gardens designed by these mere architects and many others like them. As one who knows its history, let me remind the present editors of *House and Garden* that their Magazine's earliest (and some of us still think, its best, numbers) were promoted, edited, illustrated and composed entirely by architects . . . of whom the above named Wilson Eyre was chief.

Does the fault lie, perhaps, in the misleading classified telephone directories, or membership lists of technical societies? Are all *soi disant* architects really architects? Do all contractors really build; all decorators really decorate? And assuming architecture to carry, shall we say, to be understood by our practical friends, "a side line called Beauty"—and further—assuming "Unity" to be a recognized element of Beauty, can there be unity without plan? Or plan without a planner?

* * *

THE next convention of the American Institute of Architects should be a vital one, for it is to be devoted mainly to the discussion of that most vital present day subject, "Modern Architecture." What with le Corbusier's "Toward a New Architecture," Stanislaw Szukalski's broadsides that accompany his "Projects in Design" and the numerous other evangelists inveighing the Young against the platitudes of the Stand-patters, there is much commotion . . . and somehow something seems to be "doing" about it. How disrespectful they are, these proselyters! "Do not listen," says one, "to the artificially slobbering enthusiasms of the professional art critics who chatter about the impenetrability of the greatness of great works of Art." And, "do not show the Art Student the masterpieces of the past until he himself is able to create his own primitives." One in-

clined to argue might ask, "are there, any longer, accepted critics who say much about "impenetrability?"—let us say since Ruskin" (who was with all his rhetorically expressed fallacies, useful in his time); or "just how is the helpless, vacuous Art Student to be kept from getting at the masterpieces of the past any more than a child from the experimental cigarette, the suppressed book or bad liquor?" "Why 'primitives' to express sophistication?" These French, Polish and other apostles of the New, only echo what Albert Kelsey suggested as a slogan, "Progress Before Precedent" nearly thirty years ago, at a convention in Chicago. The late Louis Sullivan and his closest disciple, Frank Lloyd Wright, there and then almost broke up the meeting with their own interpretation "Progress *Without* Precedent" the while Mr. Kelsey protested that "before" inferred sequence and sequence inferred more than one item. Yet whatever is sound of the New Order, at least in America, seems to justify the Kelsey dictum. "Precedent" if we look intelligently for evidence in the great works of the past, shows that, somehow, Architecture has expressed and will continue to express the problems, structural systems and, a more subtle quality that we generally overlook, "the times:" that Architecture has indeed always been "new!"

Apropos of "Modern Architecture" as of every other subject, there will always be someone who is fool enough to ask for a definition of terms. Well! Who dares do the defining? But Modern Architecture is *not*, say, the omission of cornices—although certainly the omission of cornices in city buildings is a modern trend, structurally and sensibly inspired. And surely, Modern Architecture is *not* the appropriation of decorative elements already specially designed for and executed by others in particular places, *ad lib*, and without your leave. Can, for example, Bottiau's thrilling bas relief "La Vitesse," so at home at the Palais St. Didier in Paris, belong on a public building in New Jersey? La Vitesse in Camden seems to have slowed down . . . the chariot wheel spokes and heel wings of Mercury are visible as they are not in the original. And, by the way, the publication of this more recent version, unaccredited as, say, a near replica, seems to have been inadvertent, although architects sometimes do cross lines that writers fear and the disregard of which have cost some playwrights fortunes. What of it! "Did Ictinus," it may be defensively asked, "invent the triglyphs he used in the entablature of the Parthenon?"

Wm. C. Hays, A. I. A. San Francisco.

BUILD NOW, ARCHITECTS' SLOGAN

[Concluded from Page 100]

er when he was Secretary of Commerce, is in a position to enlist the active and vigorous support of the Small House Service Bureau in any program which may be determined upon in the future.

"The Structural Service Department of the Institute provides a contact between the architect and manufacturers and technicians. It is actively co-operating with many divisions and activities of the Department of Commerce and especially with the Division of Simplified Practice, and the National Committee on Wood Utilization.

"The Institute, through its Structural Service Department and other committees, is actively co-operating with building and loan associations, banks and investment companies in matters relating to the financing of buildings and especially to the financing of small homes to the end that losses running into millions of dollars annually may be prevented by assuring design and construction of such a character that the resale value of the property will be at least sufficient to meet the mortgages."

WITH *the* ARCHITECTS

SAN FRANCISCO MUNICIPAL BUILDINGS

The year 1930 promises to be an active one in new building construction for the City and County of San Francisco. Several million dollars will be expended for new schools, hospitals and fire houses, according to Mr. Sawyer, head of the Bureau of Architecture. The following are some of the more important projects contemplated:

Ward building at the Relief Home, from plans by Former City Architect John Reid,, Jr., $185,000.

Two-story and roof ward addition to women's wing and four roof wards to other wings at City and County Hospital, from plans by the Bureau of Architecture, $365,000.

Two new buildings at the Laguna Honda Home, Hyman and Appleton, architects. $500,000.

Cancer hospital to be built on site of present St. Catherine's Home at 22nd and Potrero streets, from plans by Alfred I. Coffey and Martin J. Rist. $800,000.

Health Center Building at Grove and Polk streets, S. Heiman, architect. $650,000.

New building at the Health Farm, Redwood City, Henry H. Meyers, architect. $125,000.

Emergency Hospital, Alemany boulevard and Ocean avenue, Bureau of Architecture, architects. $45,000.

Final unit to Balboa Senior High School, Bakewell and Weihe, architects. $700,000.

Aptos Junior High School building, below Mount Davidson Manor, Shea and Shea, architects. $600,000.

George Washington, Sr. High School group, block bounded by Geary, Balboa, 30th and 31st avenues, Miller and Pflueger, architects. $1,500,000.

Junior High School building to occupy site of the old Lick School on Castro street, William H. Crim, Jr., architect. $600,000.

Fire house on 18th avenue, Sunset district, Bureau of Architecture, architects. $25,000.

STORES AND RESIDENCES

Plans have been completed by Russell B. Coleman, 1404 Broadway, Burlingame, for a one-story Spanish store building to be erected on Primrose Road, Burlingame, for Edward R. Martin. Plans have also been completed by Mr. Coleman for two residences for the G. W. Williams Company, one to cost $15,000 on Poppy Drive and the other to cost $11,000 on Hale Drive, Burlingame.

Y. W. C. A. BUILDINGS

Julia Morgan, architect of San Francisco, has been commissioned by the Y. W. C. A. to prepare plans for a new dormitory and boarding home for girls, which will probably be erected on the site of the present home at 1259 O'Farrell street, San Francisco. An approximate cost of $300,000 was recently provided for in a building fund campaign. Additional funds were raised at the same time for alterations and additions to the Japanese Y. W. C. A. building at 1826 Sutter street and for a new Chinese Y. W. C. A. building at Joyce and Clay streets.

ANOTHER SAN JOSE HOTEL

San Jose has another hotel project in a twelve-story reinforced concrete structure planned for 4th and San Fernando streets. The plans are by Coffman, Sahlberg and Stafford of Sacramento, the promoters being known as the San Jose Properties, Ltd. The estimated cost of the project is $750,000.

These same architects have been commissioned to prepare plans for the new Armijo Union High School at Fairfield, Solano county, to replace the building recently destroyed by fire.

CHURCH AUDITORIUM AND HOTEL

James W. Plachek, architect, Mercantile Trust building, Berkeley, has been commissioned to prepare plans for a skyscraper apartment hotel, auditorium and Bible training school, for the Fitzgerald Memorial M. E. Church, South. The building will be located at the northeast corner of Ellis and Taylor streets, San Francisco, and will cost in the neighborhood of $750,000.

AUTO SALES BUILDING

August Nordin, architect, Mills building, San Francisco, is completing drawings for an auto sales and service building to be built next to the State Armory at 14th and Mission streets, San Francisco, for the Kresteller Motor Car Company. The estimated cost is $135,000.

BURLINGAME LIBRARY

E. L. Norberg of San Francisco has been appointed architect for the new City Library at Burlingame. A bond election will be held to vote the necessary funds.

HEALTH CENTER AND HOSPITAL

Preliminary plans are being prepared in the office of S. Heiman, architect, 605 Market street, San Francisco, for a four-story and basement reinforced concrete Class A health center, emergency hospital and office building for the City and County of San Francisco. The site is the corner of Polk and Grove streets, facing the Civic Center. An appropriation of $600,000 is available.

HOSPITAL PLANS COMPLETED

Working drawings have been completed in the office of Arthur Brown, Jr., and Bakewell & Weihe, associate architects, 251 Kearny street, San Francisco, for a new surgical wing at Stanford Hospital, Buchanan street, between Sacramento and Clay streets, San Francisco. Bids for this $1,000,000 structure will be taken during the current month.

SAN MATEO STORE BUILDING

Plans have been prepared by Messrs. Edwards and Schary, Santa Fe building, San Francisco, for a $60,000 store building for the Wisnom Estate in San Mateo. There will be ten stores. Plans are being considered for additional floors for hotel purposes.

GUY L. BROWN BUSY

New work in the office of Guy L. Brown, architect, American Bank building, Oakland, includes a factory for the Standard Acetelyne Gas Company, a factory for the Overhead Door Company and a large Spanish residence in Moraga, Contra Costa county.

THREE SPANISH RESIDENCES

Plans have been completed by George E. McCrea, architect, Hearst building, San Francisco, for three Spanish type residences to be built on the south side of Seacliff avenue between 26th and 27th avenues for Harry B. Allen, Inc., at a cost of $35,000 each.

LOS ANGELES LOFT BUILDING

The Mutual Income Properties, Inc., are owners of a $300,000 four-story Class A loft building to be built in San Pedro from plans by A. L. Smith, architect, Fidelity building, Los Angeles.

NEW COLLEGE DORMITORY

Plans have been completed by H. A. Minton, architect, 525 Market street, San Francisco, for a new dormitory at Santa Clara College. Construction will be started immediately.

PERSONAL

Messrs. Couchot and Rosewald, engineer and architect, have moved into new offices in the Underwood Building, San Francisco. E. Musson Sharpe, architect, occupies the same suite.

C. H. Salyers, 916 Eighth Street, San Diego, would like to receive manufacturers' catalogs to be used in connection with his new A. I. A. file. Mr. Salyers writes that of all his subscriptions to architectural magazines, he considers The Architect and Engineer the most interesting and valuable.

J. U. Clowdsley, architect of Stockton, received Honorable Mention for his design of the George Ditz home, which he entered in the *House Beautiful* Competition for the best small home in the United States.

Edward H. Russ, architect of Berkeley, has taken offices with R. Reede Hardman, First National Bank Building, Berkeley.

William G. Mann, architect of Seattle, has taken leave of absence from his office for a period of two months. He will visit southern California, Arizona and other southern points before returning.

Ernest Flores, architect, 1803 Franklin Street, Oakland, announces his firm will no longer operate under the name of Flores, Wood & Ward, but will undertake all future work as Ernest Flores, architect.

R. F. Felchlin, a member of the architectural firm of Felchlin, Shaw & Franklin of Fresno is convalescent from burns received December 5 when a water heater exploded in his home in Fresno.

Hugh Y. Davis of Davis-Pearce, architects and engineers, Stockton, is at his office again following an operation to his arm.

HONOR FOR WM. H. WEEKS

William H. Weeks, architect of San Francisco, Oakland and San Jose, won third prize for his design of the First Christian Church in Watsonville, the award being made by a jury of architects in the annual church building competition conducted by the *Christian Herald*. Mr. Weeks also received Honorable Mention for his design of the First Christian Church, Oakland. The first prize in the competition was awarded to John Russell Pope, architect of the First Presbyterian Church, New Rochelle, N. Y., while second prize went to Coolidge & Hodgdon, for their design of the First Presbyterian Church, Clinton, Iowa. The prize awards were made from an entry of 50 churches in 22 states and two foreign countries.

ARCHITECT OPPOSES "OR EQUAL" SPECIFICATIONS

A number of San Francisco architects are in receipt of a letter from the Down Town Association of San Francisco which explains a new venture about to be undertaken by the Association—that of aiding architects, contractors and manufacturers of building materials by forming a close co-operation between the investor, the architect, the contractor and the manufacturer. In conclusion the writer of the letter, B. C. Brown, makes the following appeal:

"We now ask the architects, the contractors and the manufacturers of building materials to notify us whenever an order for plans, a contract for the construction of a local buliding or an order for building materials are contemplated being let outside of San Francisco. On receiving this information, committees from the Down Town Association will immediately call on the investor, the architect or the contractor and take whatever action may be considered advisable."

Exception to this rather drastic plan is taken by many architects who are in the habit of specifying materials manufactured outside the city in which they are practicing for obvious reasons. Opposed to the plan is Louis C. Mullgardt, who has addressed the following letter to the Down Town Association of San Francisco:

"The architect occupies a compromising position in respect to Community Business Interests. He is inevitably general agent for specific kinds and qualities of building essentials, when drawings and specifications for a building project have been prepared. All sorts of incriminations come from almost every branch of the building industry, when the provisions are specific. If the architect's provisions are not specific, then the final results are usually unsatisfactory to both the investor and architect. The term "equal to" frequently used, is too indefinite to insure satisfactory results. Every large city produces similar but not identical products. The variations are as great in building products as in automobiles, pianos, oranges or celery. The architect must be specific, to give the investor that which he is entitled to for his investment. It is manifestly an act of misconduct when an architect deliberately and knowingly fails to provide whatever his client is entitled to, and because of a natural predilection toward favoring his own community business. In recognizing and fulfilling "first duty" to his client, he also serves the community best.

"The policy of intensive community development is unquestionably essential. The principle of foreign interchange in business is undeniably as important, intercommunally as it is internationally. There should be a definite limit-line beyond which a community business development policy would become retroactive; for instance, if outlying communities should incline the policy as a parsimonious attempt to exclude them from our patronage. This has happened elsewhere.

"With kindest regards, very truly yours,

"L. C. MULLGARDT, F. A. I. A."

LONG BEACH ARCHITECT MOVES

Joseph H. Roberts, who has been located at 311-312 Marine Bank Building, Long Beach, California, for the past eleven years, has opened temporary offices at 616 Pacific-Southwest Building, due to the fact that the Marine Bank Building is to be torn down.

Mr. Roberts, who has served for the past three years as secretary and treasurer of the Architectural Club of Long Beach, asks that all communications addressed to the Club be sent to his new address.

The office in the Pacific-Southwest Building will be used by Mr. Roberts until his new permanent quarters are ready for occupancy.

LE BRUN TRAVELING SCHOLARSHIP

Preliminary notice has been received of the Le Brun Traveling Scholarship competition for the year 1930. The winner of this competition receives $1400 to aid him in paying expenses of a European trip lasting not less than six months. Competitors must be nominated by members of the American Institute of Architects and nominations should be sent so as to be received before January 15, to LeBrun Scholarship Committee, Room 530, 101 Park Avenue, New York.

ARCHITECTURE

The three essentials of great architecture are proportion, dignity and refinement, said Norman Shaw the famous English architect.

Whether it be the peerless grace of the Taj Mahal, the combined mass and delicacy of Fontainebleau, the Gothic poetry of Milan, the Grecian purity of St. George's Hall, Liverpool, the stately Capitol at Washington, or one of our modern business buildings, by these three qualities—proportion, dignity and refinement, we may appraise architecture of buildings.

COUNTRY RESIDENCE

Plans have been completed in the office of Willis Polk & Company, 277 Pine street, San Francisco, for a $50,000 country house at Hillsborough, for Eugene Kauffman of the H. S. Crocker Company, San Francisco.

SOUTHERN PACIFIC HOSPITAL

Plans have been completed by Alfred I. Coffey and Martin J. Rist, associated architects, Phelan building, San Francisco, for a new wing to the Southern Pacific Hospital at Baker and Fell streets, San Francisco. Construction will be steel frame, concrete walls and floors and brick exterior. There will be accommodations for one hundred and twenty patients. The building will cost $600,000.

COMPLETING SCHOOL PLANS

The office of William H. Weeks, architect, Hunter-Dulin building, San Francisco, is completing drawings for the new Alhambra Union High School to cost $240,000, which is to be built at Martinez, Contra Costa county. The same office is also completing plans for the new Trace School addition at San Jose, estimated to cost $80,000.

JUNIOR HIGH SCHOOL BUILDINGS

A group of Junior High School buildings for the City and County of San Francisco is being designed in the office of William H. Crim, Jr., architect, 488 Pine street, San Francisco, at a cost of $650,000. The location is 25th and Noe streets. The group will include an administration building, shops, gymnasium and auditorium.

HONOLULU BUILDING

Contracts have been let for the construction of a three-story reinforced concrete wholesale drug building, office and warehouse, at Honolulu, for Langley, Michaels & Company, from plans by Henry H. Meyers, architect, Kohl building, San Francisco. The building will cost $109,000.

REINFORCED CONCRETE HOTEL

A reinforced concrete hotel is to be erected on the ocean front near Santa Monica, from plans by Walker and Eisen, architects, Western Pacific building, Los Angeles. There will be one hundred rooms. The cost is estimated at $250,000.

PALM SPRINGS HOTEL

A $1,000,000 resort hotel is to be built six miles east of Palm Springs, California, for H. L. Lewis, Wm. Bearman and associates. The architect is A. B. Rosenthal, Lankershim building, Los Angeles.

MERCED THEATER

Plans are being prepared in the office of Reed Brothers, architects, 105 Montgomery street, San Francisco, for a $200,000 theater at Merced.

FIVE DAY WEEK FOR BUILDERS

The San Francisco Builders Exchange has adopted the five day working week, according to the following resolution unanimously passed December 20th:

WHEREAS, the slackness in the building industry has created some unemployment, and

WHEREAS, investors now seem to be turning to real estate and construction, and

WHEREAS, there should be no doubt in the minds of the investing public as to the stability of the building labor markets and its costs, and

WHEREAS, there has been considerable request for a five day week for building mechanics on the buildings, and

WHEREAS, it is not practical or right that such program should include our shops, factories and business houses with their heavy carrying charges and overhead, and

WHEREAS, it seems advisable that both employer and employe should have the opportunity of testing out the advisability of the five day week for building mechanics employed on the buildings,

NOW THEREFORE BE IT RESOLVED by the members of the San Francisco Builders' Exchange, in meeting duly assembled, that until further notice and commencing with January 1, 1930, we will employ the mechanics *employed on the buildings* only five days for a week's work (except for mechanical emergency repairs) and

BE IT FURTHER RESOLVED that the wage scale for the year 1929 is hereby ratified and continued for the year 1930 at the same rates per day and for the days actually worked (except that the wages for those employed on mechanical emergency repairs will remain as at present), and

BE IT FURTHER RESOLVED that Saturday forenoon shall be considered a holiday and subject to the usual payment for overtime (except that Saturday forenoon will not be considered a holiday for those employed on mechanical emergency repairs).

SAN LEANDRO STORE BUILDING

Charles D. Vezey & Sons of Oakland, have been awarded a contract to construct a two-story steel frame and brick store and office building on the site of the old Estudillo house in San Leandro for $65,000. The architect is E. W. Cannon of Oakland.

DEPOT PLANS COMPLETED

Messrs. O'Brien and Peugh of San Francisco have completed plans for the new Pickwick stage depot and hotel at Eureka, Humboldt county. More than $500,000 will be expended on the ten-story structure. There will be a hundred and fifty rooms.

BAYWOOD CONSTRUCTION ACTIVE

Many new buildings are under construction and are being planned for the Baywood district near San Mateo from plans by Grimes and Schoening, 235 Third street, San Mateo. The work will include apartment houses and high class dwellings.

SANTA ANA FACTORY

A $4,000,000 factory to occupy an eighty acre site in Santa Ana is planned by the Pittsburgh Plate Glass Company.

1930 GOOD BUILDING YEAR

Modernization of cities is a neglected field offering vast opportunities for the building industry, declares D. Knickerbacker Boyd, chairman of the Committee on Public Information of the Philadelphia Chapter of the American Institute of Architects.

A healthy year is ahead for building if those associated with the industry realize the possibilities of the situation, according to Mr. Boyd, who points out the need of collaboration between architects and builders, and planning and zoning commissions and kindred organizations.

The construction consciousness of communities and citizens has been aroused by President Hoover to an extent that should assure prosperity, in the opinion of Mr. Boyd, who is president of the Philadelphia Building Congress.

"Aside from the construction in hand and in sight for 1930, as indicated by reports from governors, mayors and others, there remains a big field of heretofore neglected work for the whole of the building industry in almost every locality," Mr. Boyd says, in a statement issued by the Institute. "This field can be opened up in two ways:

"First, by participation in the home modernization movement, so well established in certain communities. The vast majority of buildings have been allowed to deteriorate or become 'out of date' to an alarming extent, and they should be rejuvenated without delay.

"This rehabilitation would carry with it not only the sale of building materials and other manufactured products but also would result in vastly increased sales of furniture, equipment and devices which always follow in the wake of activities in the building industry.

"Second, by the elimination of slums and the modernizing of the older sections of our growing cities. Fortunately, attention is now being called by the Better Homes in America Committees and women's organizations to the necessity of improving slum districts.

"Here again is a vast opportunity for activities in the building industry which will improve the living conditions and surrounding of those now residing in the older portions of communities neglected while new areas have been built up.

"Building Congresses in New York, Boston, Portland (Oregon), Philadelphia and elsewhere have for some years fostered activities to overcome seasonal periods of depression. They have shared in promoting the construction of schools and other buildings throughout the winter, and have made investigations and issued statistics showing the economic and communal advantages of year round construction.

"Both the public and the industry now seem to recognize thoroughly the general advantages of winter building. This statement, however, does not apply with the same force to some construction activities, such as road building, street repairs, sidewalks, sewer construction, etc.

"Viewing the situation broadly, it may be said with confidence, that the building outlook has never been brighter."

HOW MUCH ART IN "MODERN" ART?

[Contributed]

The desire for "something different" is laudable. It means progress—if kept within bounds. We have lately had a surfeit of so-called modern art—in design, in furniture, in typography—that was decidedly different. But it was not art. It violated every vital principle of harmony, symmetry, rythm, contrast, balance, emphasis and proportion.

A refreshing exception is a circular now before us, published by the Pacific Portland Cement Company. It features a remarkable specimen of concrete construction—the new factory of the Continental Can Company, Oakland, California; architects, Francisco and Jacobus, Los Angeles; contractors, Scofield-Twaits Company, San Francisco.

The circular represents the true type of modern art. Its artistic and factual points of emphasis co-incide. The eye naturally, easily and readily absorbs the main point, viz.: that with specially prepared forms and the use of Old Mission plastic waterproof Portland cement no further surface finish was needed when the forms were stripped. This marks a new step in the art of concrete practice.—C. R. L.

PRACTICING WITHOUT LICENSE

Pleading guilty to practicing architecture without a license, I. D. Northcutt, service architect for the Greater City Lumber Company, was fined $100 by Police Judge O'Brien. Northcutt was arrested on a warrant sworn to by Frank A. Johnson, inspector for the State Board of Architectural Examiners. The recently amended act regulating the practice of architecture in California requires all practicing architects to have a license. Judge O'Brien's court is in San Francisco.

COMPANY CHANGES NAME

The name of The Safety Stair Tread Company has been changed to Wooster Products Inc. Since 1921 the Safety Stair Tread Company has been manufacturing several types of anti-slip stair treads. They have been unusually successful in the acceptance of these products for use in schools, institutions, office buildings, and similar places.

FRIZE WINNING DESIGN IN NATIONAL AIRPORT COMPETITION

A. C. ZIMMERMAN AND W. H. HARRISON, ASSOCIATED ARCHITECTS

Courtesy, Southwest Builder and Contractor

LOS ANGELES ARCHITECTS WIN NATIONAL AIRPORT COMPETITION

GRAND prize of $5,000 cash in the Lehigh Valley Cement Company's airport national competition, has been awarded to A. C. Zimmerman and W. H. Harrison, associated architects and engineers, Los Angeles.

In explanation of their solution of the problem offered in the competition, the architects made the following statement:

"In our field layout, we chose the quadrant of a circle, placing this in a square which concentrates the area for buildings and other facilities. On this we placed eight runways, making what is known as a 16-way field, these runways having a minimum length of 3500 ft. Since the program stipulated that the prevailing winds should be assumed to be equal in the eight cardinal and quarter points of the compass, we felt it was mandatory that these runways form angles of 22½ degrees with each other. We used an eight-runway system so that it would be possible with any wind direction to have a plane landing on one runway and a plane taking off on another runway with no interference, and no plane off-wind over 22½ degrees. This 16-way field could be cut to an eightway field, eliminating the possibility of simultaneous landing and take off without destroying the design of the field. This could be accomplished by eliminating the two runways that are parallel to the sides of the field and the two runways that are at 45 degrees to them. This of course, would necessitate a taxi strip in the place of the center runway that runs into the loading point. The taxi strips are used for field control and to immediately clear the runways.

"The entire design of the airport is built around the field control tower and loading point for transport planes. It is possible, with this design, for five 100-ft. wingspread transport planes to taxi up to the loading points and simultaneously load or unload and taxi away under their own power without interfering with each other. Larger planes could be accomodated by extending the telescoping steel tunnels. As shown, there are three tunnels used for unloading and two for loading. The number of tunnels used for loading or unloading may be easily changed by an attendant shifting the division between the arriving and departing portions in the loading point. Future expansion at the loading point can be taken care of by building intermediate tunnels and lengthening the existing tunnels.

"The first floor of this building is devoted exclusively to passengers. A circular stairway used only by the personnel leads to the second floor, in which is a registration room for pilots, radio department, weather bureau, toilets, lockers and a large pilot's room. The third floor is devoted to field control.

"The telescoping steel tunnels that extend out to the doors of the planes from the concrete tunnels could be automatically controlled from this tower if desired.

"We felt the necessity for separating small private or taxi planes from the large transport planes and provided a means of enplaning or deplaning without interfering with the transport planes, as shown on the plan.

"The loading point for transport planes is reached by descending a ramp leading out of the passenger station, through a tunnel, and up a ramp into the loading point.

"Deplaning immigrants must ascend a stairway from this tunnel and go through the immigration department before entering the passenger station proper.

"The entire second floor of the passenger station is used for observation. Ample provision is made for future expansion in this building as shown on the plan.

"The design of all the buildings of the airport is modern in character, which is in keeping with the newness of the airport problem. The buildings are designed as being principally of concrete construction, the finish and the ornaments being cast in place."

H. ROY KELLEY AGAIN

Has H. Roy Kelley ever missed a Mention in any of the numerous competitions he has entered? Two more recognitions of his versatility have to be chronicled this month. One is his design for an airport in the Lehigh Valley Cement Company competition, which received honorable mention, and the other his First Church of Christ, Scientist, Filmore, submitted in the *Christian Herald* Church Building competition.

SOCIETY and CLUB MEETINGS

WASHINGTON STATE CHAPTER

The November meeting of Washington State Chapter, A. I. A., was held at the College Club, Seattle, Thursday evening, November 7th.

At the conclusion of the usual dinner the meeting was called to order by President Ford. The minutes of the last regular meeting were read and approved as was also the report of the treasurer. The proposed change in the Chapter by-laws changing the name of the Executive Committee to Executive Board was presented for final action and unanimously adopted.

The secretary read a letter from the executive secretary of the Institute in regard to a proposal to have the present standard general conditions of the contract documents re-written for smaller projects such as residences.

The executive committee of the Institute believed it to be inadvisable to issue a condensed set of general conditions at this time, as the Institute committee on contracts believed that two sets of general conditions would be confusing, and attention was called to the fact that the general conditions as now published have been carefully studied by the architects as well as by the contractors and are well known to the building fraternity. They have stood the test of time and usage and have proved very satisfactory.

A letter was also presented from the Institute committee on public information, relative to its general committee program. The president called the attention of the Chapter to the fact that the Chapter's public information committee has been for two years proceeding quite successfully along practically the same lines as was now recommended by the National Committee.

Mr. Myers, chairman of the Civic Design committee, presented recommendations of his committee regarding the proposed bridge to cross Lake Washington either through or in the vicinity of Seward Park, Seattle.

* * *

A notable event in the annals of the Chapter was a duck luncheon extended the Executive board at its regular weekly meeting at the College Club, November 27th, by former President Harlan Thomas, whose skill as a sportman was abundantly appreciated.

The Architects' Wives Club recently resumed activity with the election of officers, consisting of Mrs. Carl F. Gould, president; Mrs. Sumner L. Hinman, secretary, and Mrs. Lance E. Gowen, treasurer, the club to hold meetings on special occasions.

SOUTHERN CALIFORNIA CHAPTER

Election of officers for 1930 and the election of delegates for the 1930 annual convention marked the meeting of the Southern California Chapter, A. I. A., on the evening of December 10.

The officers elected were: H. C. Chambers, president; Carleton M. Winslow, vice-president; H. Roy Kelley, secretary; Ralph C. Flewelling, treasurer; Gordon B. Kaufmann, director for three years.

The delegates elected for the 1930 convention to be held in Washington, D. C., were: David J. Witmer, William Richards, A. M. Edelman, Edgar H. Cline, Carleton M. Winslow, Charles H. Cheney, Ralph Flewelling. The alternate delegates elected were: Pierpont Davis, Arthur L. Acker, J. E. Allison, Eugene Weston, Palmer Sabin, Gordon B. Kaufmann, Arthur R. Hutchason.

LOS ANGELES ENGINEERS MEET

The December meeting of Los Angeles Chapter, American Association of Engineers, was held at the Engineers Club in Los Angeles on Friday, December 20th. "Registration of Engineers in California" was the subject of the evening and it was very well handled by James F. Collins of Long Beach, director of the Department of Professional and Vocational Standards, and Donald M. Baker, president of the Board for the Registration of Civil Engineers. A. M. Edelman, Secretary of the Board of Architectural Examiners, Southern District, expressed the viewpoint of the architects, and Pecos H. Calahan, Secretary of the California Engineers Registration Association, told the accomplishments of the Registration Association and the need of continuing the organization for further work.

Places at the speakers' table were reserved for Mr. and Mrs. James F. Collins, Mr. and Mrs. Donald M. Baker, Porter H. Albright, president of Los Angeles Chapter, A. A. E., Carl B. Wirshing, Commissioner of Public Works, Frank H. Olmsted, Pecos H. Calahan, William C. Hogoboom, Hubert Ferry, A. L. Sonderegger, A. M. Edelman, F. E. Trask and Mariabelle Sutherland, the efficient secretary of the local chapter of the A. A. E. Many other prominent engineers of Los Angeles attended the meeting to learn more about the registration of engineers.

President Porter Albright announced that the Honorable C. C. Young, Governor of California, would be the guest of honor and the principal speaker at the January meeting.

L. A. ARCHITECTURAL CLUB NOTES

(From the December *Lintel*)

The November meeting, in which the Southern California Chapter, A. I. A., the *Los Angeles Times* and the Los Angeles Architectural Club joined forces was, to all intents and purposes, a success, and considering the great social problems faced which were almost analogous to those faced by the Washington diplomats in the Gans-Longworth controversy, it was a success.

There were two presidents, a past-president and chairman, important representatives of the press, realtors and three guests of honor all wanting to occupy one chair. It's a well known fact that no more than two persons should occupy the same chair at once and then not in public, so the impossible was faced.

Philosophers maintain that any man important enough to raise the question of precedence is great enough to attract so much deserved attention to himself that wherever he may sit is the head of the table. This policy was followed with the result that the table resembeled the nine-headed Hydra—heads stuck out everywhere.

A great many people talked, including both Roy Kelley and Harrison Clarke, in whose honor the meeting was held, but it was not until Alma Whitaker spoke of the modesty and altruistic ideals of her near neighbors that the real genius of the evening actually displayed itself, for where perspicacity and perspicuity meet, the results are delightfully illuminating.

John Steven McGroarty spoke feelingly of the architecture of California and deftly spotlighted certain romantic phases of our earlier history. The *Times* was well represented with Mr. McGroarty, Mr. Trueblood, Miss Whitaker, Mr. Grant and Mr. Hanson—as Mr. McGroarty might have said had he been a little bolder—"We of the *Times* believe that five men can do the job better than one."

* * *

The architectural profession may not have all gone "moderne" but the Architectural Club *has* gone Russian! For its Christmas meeting, anyhow. It was held Tuesday evening, December 17th, at the Russian Artcraft Club, 5311 Hollywood Boulevard.

The Club House is picturesque rather than imposing, set far back from the street, among trees. Its interior decorations, rich in Slavic design and color, tell the ever-interesting stories of Russian mythology. Ogres and dragons, knights and giants disport themselves in alarming array.

The dinner and entertainment was in the hands of Madame Sonia Poushkareff who had planned a program of ballet and songs of her native country.

* * *

The second dinner meeting was held at the Atelier, Thursday, December 5th, with the critics on the evening problem as honored guests. The very successful results of the previous problems were announced.

The work is on exhibit at the Atelier (1548 W. 7th street) and every one is invited.

New quarters for the Atelier have not been found as yet.

ARCHITECTS ARE GUESTS

Southern California Chapter, Associated General Contractors, entertained their architect friends at the meeting of the Building Division in the Jonathan Club, Los Angeles, December 19. Following an instructive entertainment and showing of a moving picture taken during the construction of a soundproof studio for making talking pictures, the evening was taken up with an informal discussion of matters of mutual interest to architects and contractors, in which all of the architects present and many members of the Chapter participated.

It was announced by Melville Dozier, Jr., that James F. Collins, director of the Department of Professional and Vocational Standards and also registrar of contractors, had announced in an address at the A. G. C. convention held in San Francisco recently, a plan to form in his department a division comprising the architects, the engineers, the contractors and the public accountants. The license laws for each of these groups is administered through Mr. Collin's department. He hopes by occasional conferences to bring these four elements more closely together for constructive work looking to professional advancement of the different groups and the general betterment of the construction industry.

Robert H. Orr, architect, member of the Los Angeles Board of Building and Safety Commissioners, who was the guest of honor, gave some of his impressions of the duties of the board and its relations to the public and to the building industry, and called special attention to the discussion of the question of modifying the height limit provisions for buildings contained in the city charter, which the board has invited preliminary to some definite action either for or against any change which the board will later recommend to the city council.

ANALYSIS OF THE NEW LAW REGULATING THE PRACTICE OF ENGINEERING IN CALIFORNIA

AFTER June 30th of this year the new State Board of Engineer Examiners will issue certificates to practice only after examining applicants. The new California State Law regulating the practice of Engineering is administered under the State Department of Professional and Vocational Standards, of which Major James F. Collins of Long Beach is directro. The members of the Examining board are Donald M. Baker, Los Angeles, president; H. J. Brunnier, San Francisco, vice-president; Albert Givan, Sacramento, secretary; P. H. Calahan, Los Angeles, assistant secretary.

For the benefit of those who would know the salient points in the new law, stripped of legal phraseology, an analysis of the measure prepared by Melville Dozier, Jr., member of the American Society of Civil Engineers, is printed herewith, by courtesy of *Southwest Builder and Contractor*:

Sec. 1—Registration Requirement

To safeguard life, health and property civil engineers must qualify to practice, and it shall be unlawful to practice civil engineering unless duly registered or specifically exempted.

Sec. 2—Creation of Registration Board

A registration board of three members, all registered civil engineers, shall be appointed by the governor.

Terms of office shall be four years each, except first two appointees, whose terms shall be two and three years respectively, in order that only one term shall expire in any one year.

The governor may remove members for misconduct, incompetency or neglect of duty; all vacancies to be filled by the governor.

Each member must be a citizen of United States, a civil engineer of twelve or more years' actual experience, and of good standing in his profession, thirty or more years of age, and shall have resided in this state five or more years immediately preceding appointment.

Each member shall receive $25 per diem when attending sessions of board, and necessary expenses incident to performance of duties.

Sec. 3—Powers and Duties of Board

Each member shall receive certificate of appointment, file oath of office, and receive certificate of registration.

Any member may administer oaths and take testimony.

The board shall adopt a seal which shall be affixed to certificates of registration.

Sec. 4—Organization and Operation of Board

The board shall organize, elect officers, adopt rules and by-laws, and hold at least two regular meetings a year.

The board shall appoint a secretary at a salary not to exceed $3600 per year.

The board shall hold examinations as often as it deems necessary.

Special meetings and notices shall fulfill requirements of by-laws.

A majority of the board shall constitute a quorum.

Sec. 5—Secretary's Duties and Bond

The secretary shall receive all funds, report to state controller monthly, and deliver funds to state treasurer for deposit in Civil Engineers' Fund, which shall be expended for carrying out provisions of this act.

The secretary shall give surety bond for faithful performance and premium shall be paid from Civil Engineers' Fund.

Sec. 6—Records, Roster, Reports and Clerical Assistance

The secretary shall keep all records, which shall be open to the public, and shall prepare annual roster of engineers.

Copies of roster shall be filed with state secretary and clerks of all counties, furnished to all registered engineers, and made available to applicants for same.

The board shall make an annual report to the governor and file a copy with state secretary.

The board may employ clerical assistance under civil service regulations.

Sec. 7—Application Fee and Necessary Qualifications

Each application must be accompanied by an application fee of $15, and under oath must contain satisfactory evidence that applicant (a) is at least 25 years of age; (b) is of good character; (c) has practiced as a civil engineer at least six years, including at least one year in responsible charge of engineering work as a subordinate to a civil engineer. Graduation from an approved college of engineering shall count as four years' practice, and each college year for a non-graduate as one-half year's practice.

Sec. 8—Examination of Applicants

Examinations for registration shall be held at such times and places, and shall include such scope and methods of procedure, as the board shall prescribe.

Examinations shall be conducted by at least two members, and a majority vote of the board shall be required to quality an applicant.

A candidate failing to qualify may be examined again after an interval of one year or more.

Sec. 9—Registration Fee and Issuance of Certificate

(a) The successful candidate, upon payment of an additional fee of $10, shall receive a certificate of registration authorizing him to practice as a civil engineer.

(b) A lost, destroyed or mutilated certificate may be replaced by new certificate upon payment of a charge of $1.

Sec. 10—Present Practicing Engineers to Receive Certificates

Any civil engineer who shall file with the board before June 30, 1930, an application under oath containing evidence satisfying the three qualifications of Sec. 9 of this act, and accompanied by the application fee of $15, shall receive a certificate of registration, providing he has been a resident of the state at least one year immediately preceding the date of application.

After June 30, 1930, the board shall issue certificates only after examining applicants.

Sec. 11—Reciprocity with Other States

The board shall examine engineer registration requirements of other states, territories and counties, and may arrange for mutual reciprocal registration where other standards are not lower than those provided in this act.

Any engineer holding an unexpired certificate in another state, territory or country having reciprocity arrangements with this state, shall, upon payment of the registration fee of $10, receive a certificate of registration under the provisions of this act.

Sec. 12—Revocation of Certificates of Registration

(a) The board shall inquire into the identity of anyone practicing as a civil engineer without a certificate of registration.

The board by two-thirds vote shall have power to revoke the certificate of any civil engineer found guilty of fraud or gross incompetency in his practice, or guilty of fraud or deceit in his practice, or guilty of fraud or deceit in obtaining his certificate of registration.

(b) Proceedings for revocation of certificate shall be begun by filing detail charges under oath with the secretary, and the board shall fix the time and place for hearing, furnishing the accused with a copy of the charges at least 30 days before the date of hearing.

The accused shall have the right of counsel, witnesses and cross-examination in his defense.

The board shall have power to compel attendance of witnesses and production of documents.

The board, by a vote or two or more members, may for reasons which it deems sufficient, reissue a revoked certificate of registration.

Sec. 13—Annual Fee and Renewal of Certificates

(a) All certificates shall expire on the June 30 following their dates of issuance.

(b) Renewal certificates shall be issued to those registered engineers who shall pay to the secretary the $5 annual renewal fee on or before June 30 of each year.

Certificates which have expired for failure to pay annual renewal fee may be reinstated within one year under rules prescribed by the board.

An unrevoked, or unexpired certificate, or endorsement of registry, shall be presumptive evidence in all courts that the person therein named is legally registered.

Sec. 14—Seal of Registrant

Each registrant may obtain a seal, authorized by the board, bearing his name and number of his certificate, and the words "Registered Civil Engineer."

Said seal may be stamped on plans, specifications, reports and documents during the life of registrant's certificate, but it shall be unlawful to use such seal when the certificate has expired or been revoked.

Sec. 15—Employees and Owners Exempted

This act shall not prohibit a civil engineer from practicing his profession as an employee of a partnership or corporation, providing plans, specifications and reports be signed and stamped with the seal of the registered engineers in responsible charge of the preparation of the same; and the same exemptions shall apply to partnerships and corporations.

This act shall not require registration for the purpose of practicing civil engineering, by individual, partnership or corporation, in connection with property owned or leased by such individual, partnership or corporation, unless the same involves the health and safety of its employees or of the public; providing no one shall represent himself as a registered engineer unless he be so qualified under this act.

Nothing in this act shall be construed as repealing or abrogating any provision of the act to regulate the practice of architecture.

Sec. 16—Exemptions from Provisions of Act

The folliwing shall be exempt from the provisions of this act:

(a) Officers and employees of the United States when so practicing.

(b) Subordinates to registered engineers, or to civil engineers exempted under this act, when so acting.

(c) Any architect registered under the act to regulate the practice of architecture, when so practicing architecture solely.

(4) Any person, partnership or corporation furnishing labor and materials for stone fronts, interior alterations, fixtures, furniture or other appliances or equipment, or for any work necessary for their installment.

Sec. 17—Violations and Penalties

Any person shall be deemed guilty of a misdemeanor who does any of the following:

Practices civil engineering in this state without obtaining authorization under this act, unless specifically exempted.

Presents, or attempts to file as his own, the certificate of another.

Gives false evidence to any member of the board in obtaining a certificate.

Falsely impersonates or uses the seal of any other practitioner.

Uses an expired or revoked certificate.

Upon conviction of any one of such offenses the punishment shall be a fine not to exceed $500, or imprisonment of not to exceed three months, or by both fine and imprisonment.

Sec. 18—Administration by Department of Professional and Vocational Standards

All duties and powers proposed for the several officers, deputies and employees of the board are vested in and shall be administered by the director of the department of professional and vocational standards.

The new department shall not, however, supplant or abolish the board of registration, and such board shall continue to set standards, hold meetings, issue certificates, pass upon qualifications of engineers, conduct investigations, issue citations, hold hearings for revocations and impose penalties; and the decisions of the board shall not be subject to review by the director of the department of professional and vocational standards.

The director of the department of professional and vocational standards shall have full authority to employ and appoint employees to administer the work of the board in accordance with civil service regulations.

Upon recommendation of the board, and with the approval of director of the department of finance, the director of the department of professional and vocational stand-

ards shall employ investigators and attorneys to assist the board in prosecuting violations of this act.

All moneys collected for and on behalf of the activities of the board shall be remitted to the state treasurer and credited to the civil engineers' fund.

The director of the department of professional and vocational standards, with the approval of the director of the department of finance, may levy a charge against the civil engineers fund, not exceeding the mount of the available balance in the fund, to cover the board's prorata share of the estimated administration expenses of the department of professional and vocational standards; but none of such moneys shall be used to pay the expenses of any other board in the department of professional and vocational standards.

The state controller shall, upon proper presentation of claims by the department of professional and vocational standards, draw his warrants against the civil engineers' fund to cover such estimated administration expenses.

TWO VALUABLE BOOKLETS

More and more it is becoming the work of the designer to pre-determine in advance of actual construction, the day lighting and airation characteristics of the industrial buildings he plans.

A non-technical presentation of the methods is given in two booklets, "Industrial Daylighting" and "Industrial Airation," recently published by the Detroit Steel Products Company, manufacturers of Fenestra steel windows.

The information given in these books is based on seven years of experimentation by Fenestra engineers in cooperation with the Department of Engineering Research of the University of Michigan. Thousands of tests have been made in the University Laboratory.

The principles of daylighting and airation are presented in these books in a form that will make them usable to (1) architects, engineers and plant owners or executives who are contemplating or preparing plans for an industrial building and (2) plant, maintenance and production engineers who wish to improve or alter daylighting and ventilating conditions in plants now operating.

In each book the material is divided into 18 subjects, some of which are: "How to Get Evenly Distributed Daylight," "Monitor Windows Versus Skylight," "How to Figure the Daylighting for Your Building," "Daylighting a Multi-Story Building," "What is Considered Good Ventilation," "Temperature Difference as a Means of Moving Air," "How a Typical Roof Monitor Operates" and "How Should a Building be Designed for Airation."

The books may be obtained, without charge or obligation, from the Detroit Steel Products Company, 2250 East Grand Boulevard, Detroit, Michigan.

DAHLSTROM DOORS SAVE FIRE LOSS

The truth of the Dahlstrom Metallic Door Company's slogan, "No building is more fireproof than its doors and trim" was again shown in a fire on November 17th, at Waco, Texas. The fire broke out in a beauty shop on the tenth floor of the Amicable Life Insurance Company Building. It was prevented from spreading and probably gutting the entire floor, by Dahlstrom metal doors and trim. A clipping from a Waco paper states:

"The fire cooked the plaster from the walls, cracked the window panes and blistered the fireproof doors, but it did not break through into adjoining offices."

The 20 story Amicable Building, erected in 1911, was the first skyscraper built in Waco and is a landmark for the surrounding country. Sanguinet & Stoats, architects, of Fort Worth and the Westlake Construction Co., of St. Louis, contractors, met an unexpected difficulty while excavations for the building were being made. An underground lake was discovered, necessitating extensive pumping, sinking caissons and a complete revision of foundation plans.

When construction finally got under way, the Amicable Life Insurance Company, now one of the largest life insurance companies in the Southwest, ordered Dahlstrom metallic doors and trim. They realized the danger of fire and recognizing the fire-resisting qualities of metal, wished to protect themselves and their tenants from possible serious losses. Their foresight was completely justified by the recent fire. Confined to its place of origin by hollow metal doors and trim, it did a minimum of damage to tenants and to the building itself.

TELEPHONE BUILDINGS FOR NORTHWEST

The Pacific Telephone & Telegraph Company announces expenditures for 1930 for new buildings in the State of Washington, as follows:

Centralia—Office building	$ 120,000
Olympia—Office building	120,000
Seattle—Office and exchange building	2,100,000
Spokane—Central Office building—and new dial type equipment	1,000,000
Tacoma—Building for business section, central office equipment and exchange lines	600,000
Yakima—Completion of central office building and dial type equipment	500,000
Walla Walla—Central office building and new equipment	250,000

BUILDING INDUSTRY IS SOUND

"Increased efficiency in all phases of the building industry will be demanded from now on." This is one of the highlights in a timely article by Alfred E. Fountain, Jr., in the October issue of *Nation's Business*. Quoting further from Mr. Fountain's article we are informed that:

"The building industry presents opportunities for wealth and service exceeded in no other line of human endeavor. Because of its exacting requirements it may never become a young man's business in the sense that others are. But it can, will and must, take unto itself newer and more youthful ways, and in doing so offers to those who shoulder the burden of the change prizes commensurate with the effort.

"Let not the confused and bewildered manufacturer earnestly seeking the answer to his new market problem, turn aside from the task as unworthy. Such a shirking of responsibility would not be entirely unnatural from the older and richer of the industry, but building needs these older and more experienced heads as they were never needed before.

"The prize far transcends dollars. It is better shelter for the nation. An awakened industry will produce better products in the sense that they will be designed more closely for their needs. Better and more modern style will mean homes better adapted to human needs. Goods will be easier to get and easier to pay for. There will be a wider and better understanding of the proper use of building materials. Even if building prices do not go down, we will all get more for our money and will have better, more beautiful homes and factories.

"Another bright point in the picture is the inherent stability of the industry, based on the stability of land itself. Except for temporary setbacks, building has always enjoyed an increasing growth. It always has been, is and always will be, the second largest market in American industry—the market in which demand does not have to be created but always exists.

"In no other line of human endeavor does such vast purchasing power lie in the hands of so few people. This small group is divided into four clearly defined subdivisions—owners, architects, contractors and building supply dealers.

"In the entire country there are only about 8,000 architectural offices, nearly 200,000 contractors or subcontractors and approximately 25,000 material dealers. These men are easy to reach either by personal or printed selling.

"A little study will make it evident that architects, contractors and dealers are far more interested in and concerned about the purchase of material from the manufacturer than they are about its resale to the consumer. So, without loss of time or waste of money, the manufacturer can take his wares quickly and cheaply to three of the possible four buying factors.

"Nor need there be concern about spending money to reach this market. Architects, contractors and dealers may arrive at decisions about material slowly, may not even be able to buy at once, but when convinced can be counted on as customers who will say 'yes' at the buying moment with a conviction based on knowledge and experience, and not on passing impulse."

NEW TRADE LITERATURE

TILE FLOORING—A Johns-Manville product. This brochure describes this company's Type A flooring, a resilient type that is said to possess unusually long life, is easy to maintain and inexpensive to buy. Fully illustrated with specifications and other useful data.

FLORIDENE STONE—A Johns-Manville product. This brochure describes an American quarried decorative stone which is especially adaptable for church interiors, public and residential buildings. Possesses unusual structural and decorative qualities. Its color is a soft neutral buff.

CRITTALL CASEMENTS—One of the most complete catalogues of casement windows published in recent years. Standard size, conveniently compiled, well illustrated. Is published also in Sweet's Architectural Catalogue for 1930, Pages A-1131 to A-1200. Duplicate copies may be had on request.

WALLER TAYLOR HONORED

Confirmation of his election to the Board of Directors of the American Institute of Steel Construction, to represent the entire Pacific Coast territory, has been received by Waller Taylor, president of Consolidated Steel Corporation, Los Angeles, from Institute headquarters.

Mr. Taylor's elevation to the directorate of the national organization was a tribute to the leading part the executive has played in the upbuilding of the steel industry on the Coast, and to his work on behalf of the Institute. His election took place at the recent annual convention at Biloxi, Mississippi.

It was pointed out that largely through the efforts of executives like Mr. Taylor, the Institute was able this year at its convention to frame and adopt a code of trade practices which is calculated to be of inestimable benefit to the building industry as a whole. The code was considered one of the strongest ever adopted by any industry in its condemnation of unfair trade practices and its repudiation of those who practice them.

PASADENA OFFICE BUILDING

A nine-story Class A medico-dental office building to be erected in Pasadena, is being designed in the office of S. Charles Lee, Petroleum Securities building, Los Angeles. There will be ninety-two offices and three stores.

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WHAT'S WHAT IN MATERIALS

WHO'S WHO AMONG CONTRACTORS

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KITCHEN EQUIPMENT
General Electric Refrigerator, L. H. Bennett, Rialto Building, San Francisco, and the George Belsey Company, Architects Building, Los Angeles.
James A. Nelson, Inc., Howard and Tenth Sts., San Francisco.
Mangrum Holbrook Company, 1235 Mission St., San Francisco.

LACQUERS
The Paraffine Companies, Inc., San Francisco, Los Angeles, Oakland, Portland and Seattle.
Bass-Hueter Paint Company, San Francisco, and all principal Coast cities.

LATHING MATERIAL—WIRE, METAL, ETC.
Genfire Steel Co., Sheldon Bldg., San Francisco; Builders' Exchange, Oakland.
Truscon Steel Co., Sharon Building, San Francisco.
Soule Steel Company, Rialto Building, San Francisco, and Los Angeles.

LAUNDRY MACHINERY AND EQUIPMENT
Troy Laundry Mach'y Co., Ltd., East Moline, Ill., and 951 Mission St., San Francisco.
Gunn, Carle & Co., 444 Market St., San Francisco.

LIGHTING FIXTURES, OUTLETS, ETC.
Westinghouse Electric and Mfg. Co., First National Bank Bldg., San Francisco; general offices and works, Pittsburgh, Pa.
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Bonded Floors—Sealex Linoleum and Tile manufactured by Congoleum-Nairn, Inc., D. N. & E. Walter & Co., San Francisco; Broadway Department Store, Los Angeles.

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Santa Fe Lumber Co., 16 California St., San Francisco.
Sunset Lumber Company, First and Oak Sts., Oakland.
White Brothers, 5th and Brannan Sts., San Francisco, and 500 High St., Oakland.
E. K. Wood Lumber Co., Frederick and King streets, Oakland.
Port Orford Cedar Products Co., Marshfield, Oregon, represented by Dent & Russell, Inc., Porter Bldg., Portland, Oregon.

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Cutler Mail Chute Co., represented by Price Building Specialties Co., 683 Howard St., San Francisco and Continental Building Specialties Co., 1216 Hibernian Bldg., Los Angeles.

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Clervi Marble Company and Mosaic Co., 1721 San Bruno Avenue, San Francisco.
Ray Cook Marble Company, foot of Powell St., Oakland.
Joseph Musto Sons-Keenan Co., 535 N. Point St., San Francisco.
Vermont Marble Co., Coast branches, San Francisco, Los Angeles and Tacoma.
Tompkins-Kiel Marble Company, 505 Fifth Ave., New York; also Chicago, Philadelphia and San Francisco.

MASONRY ANCHORS
Steelform Contracting Company, Monadnock Bldg., San Francisco; Edwards & Wildey Bldg., Los Angeles.

METAL COVERED DOORS
Fire Protection Products Co., 1101 Sixteenth St., San Francisco.
Forderer Cornice Works, Potrero Ave., San Francisco.

MILLWORK
The Fink & Schindler Co., Inc., 218-68 13th St., San Francisco.
Pacific Mfg. Co., San Francisco, Los Angeles, Oakland and Santa Clara.
Sunset Lumber Company, First and Oak Streets, Oakland.
Lannom Bros. Mfg. Co., Fifth and Magnolia Sts., Oakland.
Atkinson Mill & Mfg. Co., 2985 Chapman Avenue, Oakland.
Chicago Lumber Company of Washington, 66th and 69th Aves and Spencer Street, Oakland.
E. K. Wood Lumber Co., Frederick and King streets, Oakland.

MONEL METAL
"Inco" brand, distributed on the Pacific Coast by the Pacific Foundry Company, Harrison and 18th Streets, San Francisco, and Eagle Brass Foundry, Seattle, Wash.

OBJECTS OF ART
S. & G. Gump Company, 246 Post St., San Francisco, and Honolulu, T. H.

OIL BURNERS
Rayfield Oil Burner, Coast Distributors, E. A. Cornely, Inc., 1452 Bush Street, San Francisco.
S. T. Johnson Company, 1337 Mission St., San Francisco; 940 Arlington St., Oakland; 1729 Front St., Sacramento, and 230 N. Sutter St., Stockton.
Vaughn-G. E. Witt Co., 4224-28 Hollis Street, Emeryville, Oakland.
Ray Burner Company, 170 Sutter St., San Francisco, and 2206 San Pablo Ave., Oakland.
Coen Company, 112 Market Street, San Francisco.
Wayne Home Equipment Company, Fort Wayne, Indiana, represented by Hill and Stoops, 4214 Broadway, Oakland, Calif.

ORNAMENTAL IRON AND BRONZE
Federal Ornamental Iron and Bronze Co., 16th St. and San Bruno Ave., San Francisco.
Michel & Pfeffer Iron Works, 1415 Harrison St., San Francisco.
Palm Iron & Bridge Works, Sacramento.

PAINTING, DECORATING, ETC.
The Tormey Co., 681 Geary St., San Francisco.
A. Quandt & Sons, 374 Guerrero Street, San Francisco.
D. Zelinsky & Sons, Inc., 165 Grove St., San Francisco.

PAINTS, OILS, ETC.
The Paraffine Companies, Inc., San Francisco, Los Angeles, Oakland, Portland and Seattle.
Bass-Hueter Paint Company, San Francisco, Los Angeles, Portland, Seattle.

PANEL BOARDS
Drendell Electric & Mfg. Co., 1760 Howard St., San Francisco.
Frank Adam Electric Company, 340 Fremont St., San Francisco, and 1127 Wall Street, Los Angeles; general offices, St. Louis, Mo.
Westinghouse Elec. and Mfg. Co., First National Bank Bldg., San Francisco; general offices and works, Pittsburgh, Pa.

PANELS—HARDWOOD
White Brothers, 5th and Brannan Sts., San Francisco, and 500 High St., Oakland.

PANIC EXIT DEVICES
Von Duprin, manufactured by Vonnegut Hardware Company, Indianapolis; sold by D. A. Pancoast Co., 605 Market Street, San Francisco.

PARTITIONS—MOVABLE OFFICE
Dahlstrom Metallic Door Company, Jamestown, N. Y., Coast plant, 3350 E. Slauson Ave., Los Angeles
Pacific Mfg. Co., Monadnock Building, San Francisco; factory at Santa Clara.

PENCILS AND ERASERS
A. W. Faber Company, Newark, N. J., represented by Cahen, Davis & Company, 313 Severance Bldg., Los Angeles, Calif.

PIPE—WROUGHT IRON
Reading Iron Co., Reading, Pa., and Balboa Bldg., San Francisco.

PLASTER
"Empire," manufactured by Pacific Portland Cement Co., Hunter-Dulin Building, San Francisco, Portland, San Jose and Los Angeles.

PLASTER BASE
"Celotex," Western Asbestos Magnesia Co., 25 South Park, San Francisco.

PLASTER REINFORCING
Wickwire-Spencer Steel Company, Inc., 144 Townsend St., San Francisco.

PLASTERING CONTRACTORS
A. Knowles, Call Bldg., San Francisco.
MacGruer & Company, 266 Tehama Street, San Francisco, and Pacific Mutual Bldg., Los Angeles.

PLUMBING CONTRACTORS
Alex Coleman, 706 Ellis St., San Francisco.
Gilley-Schmid Company, 198 Otis St., San Francisco.
Hateley & Hateley, 1710 Tenth St., Sacramento.
Herman Lawson, 465 Tehama Street, San Francisco.
Luppen & Hawley, 906 7th St., Sacramento.
Scott Co., Inc., 243 Minna St., San Francisco.
Wm. F. Wilson Co., 240 Fourth Street, San Francisco.
Geo. A. Schuster, 4712 Grove St., Oakland.
W. H. Picard, 5656 College Ave., Oakland.

PLUMBING SUPPLY HOUSES
H. Mueller Manufacturing Company, 1072-76 Howard St., San Francisco.
Standard Pacific Fixtures, 349 Sutter St., San Francisco.
Tay-Holbrook, Inc., 165 8th Street, San Francisco.
Clarence Drucker, manufacturers' representative, 307 Minna St., San Francisco.

PLYWOOD
Port Orford Cedar Products Co., Marshfield, Oregon, represented by Dent & Russell, Inc., Porter Bldg., Portland, Oregon.

PRESSED STEEL
Berger Manufacturing Co., 1120 Mission St., San Francisco.

PRESSURE REGULATORS
Vaughn-G. E. Witt Co., 4224-28 Hollis Street, Emeryville, Oakland.

PUMPING MACHINERY
Simonds Machinery Co., 816 Folsom Street, San Francisco; 520 East 4th Street, Los Angeles.

PUMPS—HAND OR POWER
Ocean Shore Iron Works, 558 Eighth St., San Francisco.
S. F. Bowser & Co., Inc., 425 Brannan St., San Francisco.

REFRIGERATORS
"General Electric," sold by the George Belsey Company, Architects' Building, Los Angeles; L. H. Bennett, Rialto Bldg., San Francisco.

REINFORCING STEEL
Soule Steel Company, Inc., Rialto Bldg., San Francisco, and Los Angeles.
Gunn, Carle & Co., Inc., 444 Market St., San Francisco.
Pacific Coast Steel Co., Hunter-Dulin Bldg., San Francisco.
United Alloy Steel Corporation, Canton, Ohio; Western Sales Office, Santa Fe Bldg., San Francisco.
Truscon Steel Company, Sharon Bldg., San Francisco.

ROOF MATERIALS
El Rey Products Co., 1633 San Pablo St., Los Angeles; 960 7th St., San Francisco; 65 Columbia St., Seattle; 850 E. Taylor St., Portland.
Kraftile Company, office and factory at Niles; 55 New Montgomery Street, San Francisco.
"Malthoid" and "Ruberoid," also "Pabco" 10 and 20 year roofs, manufactured by the Paraffine Companies, Inc., San Francisco, Los Angeles, Oakland, Portland and Seattle.
Gladding, McBean & Co., 660 Market St., San Francisco; 621 S. Hope St., Los Angeles; 1500 First Ave. South, Seattle; 454 Everett St., Portland; 15th and Dock Sts., Tacoma, and 22nd and Market Sts., Oakland.
N. Clark & Sons, 112-116 Natoma Street, San Francisco; works, West Alameda, California.
W. S. Dickey Clay Mfg. Co., Rialto Bldg., San Francisco.
Jones Brothers Asbestos Supply Co., 500 Second St., San Francisco.
Johns-Manville Corporation of California, 159 New Montgomery St., San Francisco.
United Materials Co., Sharon Building, San Francisco.
Western Asbestos Magnesia Company, 25 South Park, San Francisco.
"Torfoleum" Insulation distributed by Mailliard & Schmiedell, 203 California St., San Francisco.
Pioneer Paper Co., 5500 South Alameda, Los Angeles; Hearst Bldg., San Francisco; offices in Portland, Seattle, Salt Lake City, Spokane and Denver.

WHAT'S WHAT
IN MATERIALS

WHO'S WHO
AMONG CONTRACTORS

ALPHABETICAL LIST OF ADVERTISERS ON PAGE 162

RUGS AND CARPETS—IMPORTED
Kent-Costikyan, Inc., 485 Fifth Ave., New York City, with offices at 442 Post St., San Francisco and 816 South Figueroa St., Los Angeles.
W. & J. Sloane, 216 Sutter St., San Francisco.

SAFETY TREADS
Price-Teltz Company, 683 Howard St., San Francisco.
Gunn, Carle & Co., 444 Market St., San Francisco.

SASH CHAINS
American Chain Company, Inc., Bridgeport, Conn., and 425 Second St., San Francisco.
The Smith & Egge Mfg. Co., P. O. Box 1040, Bridgeport, Conn.; 506 American Bank Bldg., Los Angeles.

SCAFFOLDING FOR CONTRACTORS
Steelform Contracting Company, Monadnock Bldg., San Francisco; Edwards & Wildey Bldg., Los Angeles.

SEATING—SCHOOL, THEATER, CHURCH
Home Manufacturing Company, Inc., 552 Brannan St., San Francisco.
C. F. Weber & Co., San Francisco, Los Angeles, Phoenix, Ariz.; Reno, Nevada.

SELF-RELEASING FIRE EXIT DEVICES
Von Duprin, manufactured by Vonnegut Hardware Company, Indianapolis; sold by D. A. Pancoast Co., 605 Market St., San Francisco.

SHADES
William Volker & Co., 631 Howard Street, San Francisco; 2301 East 7th Street, Los Angeles.

SHEATHING AND SOUND DEADENING
Western Asbestos Magnesia Co., 25 South Park, San Francisco.

SHEET METAL WORKS
Forderer Cornice Works, Potrero Ave., San Francisco.

SHOW CASES
Home Manufacturing Company, Inc., 552 Brannan St., San Francisco.
Mullen Manufacturing Company, 64 Rausch St., San Francisco.

SOUND ABSORBING TREATMENT
Johns-Manville Corporation, 159 New Montgomery St., San Francisco.

SIGNALING & PROTECTIVE SYSTEMS
Garnett, Young & Co., 390 Fourth St., San Francisco.

SLUDGE BED GLASS-OVERS
Lord & Burnham Co., Irvington, N. Y., and 208 So. LaSalle St., Chicago, Ill.

STEEL FABRIC
Wickwire - Spencer Steel Corporation, 144 Townsend St., San Francisco.
Soule Steel Company, Rialto Bldg., San Francisco, and Los Angeles.

STEEL FORMS
Steelform Contracting Company, Monadnock Bldg., San Francisco; Edwards & Wildey Bldg., Los Angeles.

STEEL TANKS
Ocean Shore Iron Works, 55 Eighth St., San Francisco.

STEEL LUMBER
Genfire Steel Co., Sheldon Bldg., San Francisco; Builders' Exchange, Oakland.

STEEL SASH
Bayley-Springfield solid steel sash, sold by Gunn, Carle & Co., 444 Market St., San Francisco.
"Fenestra" Solid Steel Sash, manufactured by Detroit Steel Products Co., factory sales office, 526 Hunter-Dulin Bldg., San Francisco.
Berger Manufacturing Co., 1120 Mission St., San Francisco.
Michel & Pfeffer Iron Works, 1415 Harrison St., San Francisco.
Truscon Steel Company, 74 New Montgomery St., San Francisco.
W. C. Lea, 653 South Clarence St., Los Angeles.

STEEL—STRUCTURAL
Bethelhem Steel Company, Pittsburg, Pa., Matson Building, San Francisco; Pacific Building, Los Angeles; L. C. Smith Building, Seattle; American Bank Building, Portland, Oregon.
Golden Gate Iron Works, 1541 Howard St., San Francisco.
Judson Pacific Company, C. F. Weber Bldg., Mission and Second Sts., San Francisco; shops, San Francisco and Oakland.
McClintic - Marshall Company, 621 Florida Street, San Francisco.
Herrick Iron Works, 18th and Campbell Sts., Oakland.
Pacific Coast Eng. Co., foot 14th St., Oakland
Pacific Coast Steel Co., Hunter-Dulin Bldg., San Francisco.
Palm Iron & Bridge Works, Sacramento.
Schrader Iron Works, Inc., 1247 Harrison St., San Francisco.
Western Iron Works, 141 Beale Street, San Francisco.
Consolidated Steel Corporation, 1200 N. Main St., Los Angeles.

STONE
Indiana Limestone Company, Tribune Tower, Chicago, Ill., and Crocker First National Bank Bldg., San Francisco.

STORE FURNITURE
Berger Manufacturing Co., 1120 Mission St., San Francisco.

STREET LIGHTING EQUIPMENT
Westinghouse Electric and Mfg. Co., East Pittsburgh, Pa., and First National Bank Bldg., San Francisco.

STRUCTURAL STEEL SHAPES
Bethlehem Steel Company, Matson Building, San Francisco; Pacific Finance Building, Los Angeles; L. C. Smith Building, Seattle; American Bank Building, Portland, Oregon.

SUN TAN ROOMS
Lord & Burnham Co., Irvington, N. Y., and 208 So. LaSalle St., Chicago, Ill.

SWIMMING POOL GLASS ENCLOSURES
Lord & Burnham Co., Irvington, N. Y., and 208 So. LaSalle St., Chicago, Ill.

SWITCHES AND SWITCHBOARDS
Drendell Electrical & Mfg. Co., 1345 Howard St., San Francisco.
Westinghouse Elec. & Mfg. Co., First Nat. Bank Bldg., San Francisco; general offices and Works, Pittsburgh, Pa.

TELEPHONES—AUTOMATIC, PRIVATE
Automatic Electric Inc., Chicago, Ill.; 1112 Pacific Finance Bldg., Los Angeles.

THERMOSTATS FOR HEAT REGULATION
Johnson Service, Milwaukee, Wis.; Rialto Building, San Francisco.

TERRA COTTA
N. Clark & Sons, 116 Natoma Street, San Francisco.
National Terra Cotta Society, 230 Park Avenue, New York, N. Y.
Gladding-McBean & Co., San Francisco, Los Angeles, Portland and Seattle.

TILE—ENAMEL STEEL
Porstelain Tile Co., 66 Twelfth Street near Market, San Francisco, and 1410 Madison Street, Oakland.

TILE—RUBBER, CLAY, CORK, ETC.
Rossman Corporation of California, 49 Geary Street, San Francisco, and Architects' Bldg., Los Angeles.
N. Clark & Sons, 112-116 Natoma Street, San Francisco; works, West Alameda, Cal.
Congoleum-Nairn, Inc., D. N. & E. Walter & Co., San Francisco, and Broadway Department Store, Los Angeles.
Gladding, McBean & Co., 660 Market St., San Francisco; 621 S. Hope St., Los Angeles; 1500 First Ave. South, Seattle; 454 Everett St., Portland; 15th and Dock Sts., Tacoma, and 22nd and Market Sts., Oakland.
Kraftile Company, factory at Niles; 55 New Montgomery Street, San Francisco.
Mangrum-Holbrook, Inc., 1235 Mission St., San Francisco.
United States Rubber Co., 300 Second St., San Francisco, and 923 Los Angeles St., Los Angeles, Calif.
Armstrong Cork Tile, sold by Van Fleet-Freear Co., 557 Howard Street, San Francisco; 3307 Wilshire Boulevard, Los Angeles.

UNDERFLOOR DUCT SYSTEM
Johns-Manville Corporation, 159 New Montgomery St., San Francisco.

VACUUM HEATING SYSTEM
C. A. Dunham Company, Dunham Bldg., 450 Ohio St., Chicago, and principal Coast cities.

VALVES—PIPES AND FITTINGS
Clarence Drucker, Manufacturers' Agent, 307 Minna Street, San Francisco.
Grinnell Co., Fifth and Brannan Sts., San Francisco.
Mueller Company, 1072 Howard Street, San Francisco.
Sloan Valve Company, Chicago; E. C. Whalen, 954 Western Pacific Bldg., Los Angeles; W. J. Driscoll, 482 Monadnock Bldg., San Francisco; E. C. Fallein, U. S. National Bank Bldg., Denver; S. D. Cochran, L. C. Smith Bldg., Seattle, Wash.

VARNISHES
Bass-Hueter Paint Company, San Francisco, Los Angeles, Portland, Seattle.
The Paraffine Companies, Inc., San Francisco, Los Angeles, Portland and Seattle.

VENETIAN BLINDS
C. F. Weber & Company, 601 Mission St., San Francisco.

VENTILATING EQUIPMENT
B. F. Sturtevant Co., Monadnock Bldg., San Francisco; Los Angeles, Portland and Seattle.

VENTILATORS
"The Panelouvre," sold by M. E. Hammond, Pacific Bldg., San Francisco.

VITREOUS CHINAWARE
Standard - Pacific Plumbing Fixtures, 349 Sutter St., San Francisco; 919 W. Seventh St., Los Angeles; 1301 Fifth Ave., Seattle Wash.; 48 Fifth St., Portland, Ore.

WATER HEATERS—GAS
Pittsburg Water Heater Company, (gas), 478 Sutter Street, San Francisco.
Ruud Heater Co., (gas), 245 Mason Street, San Francisco.

WATERPROOF CEMENT
Victor Hydro-plastic waterproof cement, manufactured by Southwestern Portland Cement Co., 356 S. Spring St., Los Angeles.

WALL BEDS, SEATS, ETC. (See Beds).

WATER COOLERS
General Electric Refrigerator, L. H. Bennett, Rialto Building, San Francisco, and the George Belsey Company, Architects Building, Los Angeles.

WATERPROOFING
Johns-Manville Corporation, 159 New Montgomery St., San Francisco.
Master Builders Company, Mills Bldg., San Francisco; 426 So. Spring Street, Los Angeles, also Seattle, Portland and Spokane.
The Paraffine Companies, Inc., San Francisco, Los Angeles, Oakland, Portland, Seattle.
Gunn, Carle & Co., 444 Market St., San Francisco.

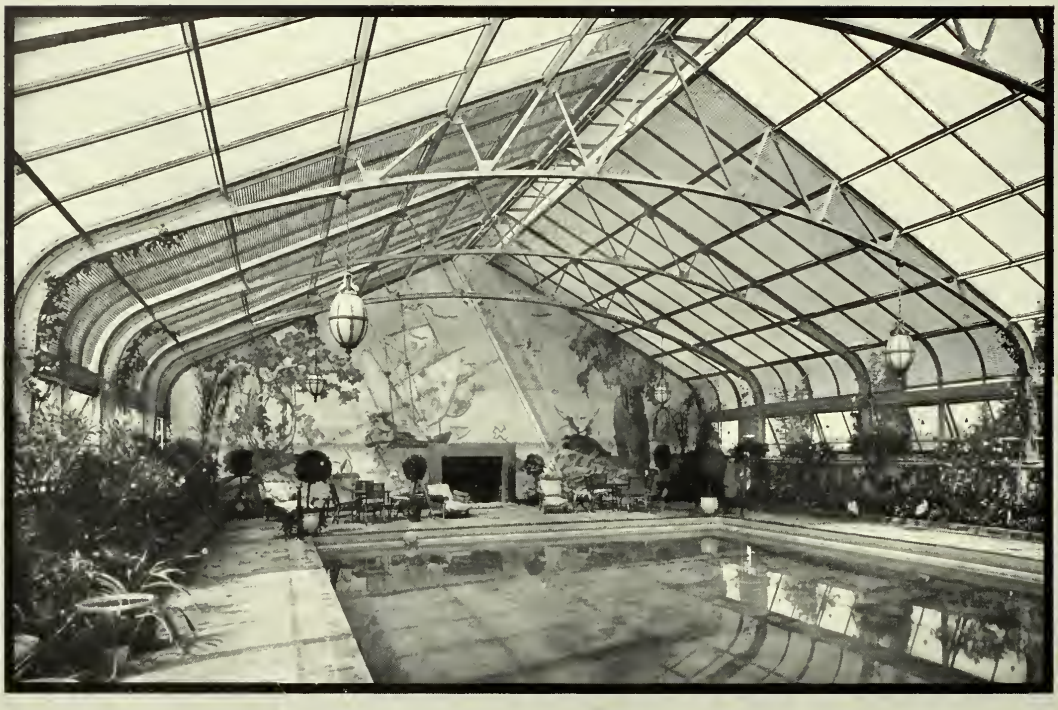
WATER SOFTENERS AND FILTERS
The Permutit Company, 440 Fourth Ave., New York City, and Balboa Bldg., San Francisco.

WATER SUPPLY SYSTEMS
Kewanee Water Supply System—Simonds Machinery Co., agents, 816 Folsom St., San Francisco; 520 East Fourth Street, Los Angeles.

WINDOW SHADES
William Volker & Co., 631 Howard Street, San Francisco; 2301 East 7th Street, Los Angeles.
W. & J. Sloane, 216 Sutter St., San Francisco.
D. N. & E. Walter & Co., 562 Mission St., San Francisco.

WINDOWS—STEEL, REVERSIBLE, ETC.
Campbell and Voigtmann Metal Windows, distributed by Fire Protection Products Company, 1101 Sixteenth St., San Francisco.
Crittall Casement Window Company, Detroit, Mich. Badt-Falk & Co., 74 Montgomery Street, San Francisco. F. T. Crowe & Co., 216 Walker Bldg., Seattle. R. H. Hoskins, 510 Hyde Bldg., Spokane. McCraken-Ripley Co., 61 Albina Avenue, Portland. F. T. Crowe & Co., 1177 Dock Street, Tacoma, Wash. Crittall Casement Window Co., 504 Union Insurance Bldg., Los Angeles.
Hauser Window Co., 1362 Harrison St., San Francisco.
Detroit Steel Products Co., Detroit, Mich.; Hunter-Dulin Building, San Francisco and Pershing Square Building, Los Angeles.
W. C. Lea, 653 South Clarence St., Los Angeles.

WIRING SYSTEM
Westinghouse Electric and Manufacturing Company, First National Bank Bldg., San Francisco; general offices and works, Pittsburgh, Pa.



Architects, TREANOR & FATIO

LOUIS JAMBOR, *Mural Painter*

This Pool Glass-Over is a distinct departure

Decidedly Worth Your Thought

QUITE one of the most delightfully interesting Pool glass-overs on Long Island is that of J. P. Donahue at Southampton.

One of the secrets of its charm lies in the general color treatment. Everything is so handled as to reflect a feeling of the sea, which is further enhanced by the Louis Jambor seascape mural over the fireplace.

The pool itself is done in three shades of turquoise. The lightest color is at the bottom, the darkest at the top, duplicating in a surprising way the effect of the sea.

Ingenious concealed lighting on the sides turns the turquoise into midnight blue at dusk.

All the roof frame work is painted a softened blue-green. The furniture repeats this color, lined in cheering red. The lighting fixtures are gleaming globes of sea-green.

It is so much more than a flower and plant surrounded swimming pool, as at one end is ample place for lounge chairs where when inclined, one can literally soak oneself in sunshine. Or by drawing the Venetian blinds on the roof, agreeably soften the glare.

Your interest in all this, will doubtless prompt your sending for our special printment on Glassed-Over Swimming Pools and Plunges.

New York
Albany
Philadelphia
St. Catharines
Chicago
Boston
Buffalo

Lord & Burnham Co.
IRVINGTON, N. Y.

Cleveland
Denver
Detroit
St. Louis
Greensboro, N. C.
Montreal
Toronto

FOR FOUR GENERATIONS BUILDERS OF GREENHOUSES

Estimator's Guide

Giving Cost of Building Materials, Wage Scale, Etc.

Amounts quoted are figuring prices and are made up from average quotations furnished by material houses to three leading contracting firms of San Francisco.

All prices and wages quoted are for San Francisco and the Bay District. There may be slight fluctuation of prices in the interior and southern part of the state. Freight cartage, at least, must be added in figuring country work.

Overtime in wage scale should be credited with time and a half, Sunday and holidays double.

Bond—1½% amount of contract.

Brickwork—
Common, $32 to $38 per 1000 laid, (according to class of work).
Face, $90 to $115 per 1000 laid, (according to class of work).
Brick Steps, using pressed brick, $1.10 lin. ft.
Brick Walls, using pressed brick on edge, 75c sq. ft. (Foundations extra.)
Brick Veneer on frame buildings, $ .90 sq. ft.
Common, f.o.b. cars, $14.50 plus cartage.
Face, f.o.b. cars, $55.00 per 1000, carload lots.

HOLLOW TILE FIREPROOFING (f.o.b. cars in carload lots).

3x12x12 in.	$ 96.00 per M
4x12x12 in.	108.00 per M
6x12x12 in.	156.00 per M
8x12x12 in.	255.00 per M

HOLLOW BUILDING TILE (f.o.b. cars in carload lots).

8x12x5½	$108.00
6x12x5½	74.00

Composition Floors — 18c to 30c per sq. ft. In large quantities, 18c per sq. ft. laid.
Rubber Tile—65c per sq. ft.

Terazzo Floors—50c to 60c per sq. ft.
Terazzo Steps—$1.50 per lin. ft.
Mosaic Floors—80c per sq. ft.

Concrete Work (material at San Francisco bunkers) — Quotations below 2000 lbs. to the ton.

No. 3 rock, at bunkers	$1.40 per ton
No. 4 rock, at bunkers	1.40 per ton
Elliott pea gravel, at bnkrs.	1.40 per ton
Washed gravel, at bnkrs.	1.40 per ton
Elliott top gravel, at bnkrs.	1.40 per ton
City gravel, at bunkers	1.40 per ton
River sand, at bunkers	1.00 per ton
Delivered bank sand	1.00 cu. yd.

Note—Above prices are subject to discount of 10c per ton on invoices paid on or before the 15th of month, following delivery.

SAND
Del Monte, $1.75 to $3.00 per ton.
Fan Shell Beach (car lots, f.o.b. Lake Majella), $2.75 to $4.00 per ton.
Cement, $2.44 per bbl. in paper sks.
Cement (f.o.b. Job, S. F.) $2.64 per bbl.
Cement (f.o.b. Job, Oak.), $2.64 per bbl.
Rebate of 10 cents bbl. cash in 15 days.
Atlas "White" .....$ 8.50 per bbl.
Forms, Labors average 22.00 per M.
Average cost of concrete in place, exclusive of forms, 28c per cu. ft.
4-inch concrete basement floor.....13c to 14c per sq. ft.
4½-inch concrete basement floor.....14c to 15c per sq. ft.
2-inch rat-proofing....6½c per sq. ft.
Concrete Steps.....$1.26 per lin. ft.

Dampproofing—
Two-coat work, 20c per yard.
Membrane waterproofing—4 layers of saturated felt, $5.50 per square.
Hot coating work, $2.00 per square.

Electric Wiring — $3.00 to $9.00 per outlet for conduit work (including switches).
Knob and tube average $2.25 to $5.00 per outlet, including switches.

Elevators—
Prices vary according to capacity, speed and type. Consult elevator companies. Average cost of installing an automatic elevator in four-story building, $2600; direct automatic, about $2500.

Excavation—
Sand, 70 cents; clay or shale, $1.25 per yard.
Teams, $10.00 per day.
Trucks, $21 to $27.50 per day.
Above figures are an average without water. Steam shovel work in large quantities, less; hard material, such as rock, will run considerably more.

Fire Escapes—
Ten-foot balcony, with stairs, $65.00 per balcony.

Glass (consult with manufacturers)—
Double strength window glass, 15c per square foot.
Quartz Lite, 50c per square foot.
Plate 80c per square foot.
Art, $1.00 up per square foot.
Wire (for skylights), 27c per square foot.
Obscure glass, 25c per square foot.
Note—Add extra for setting.

Heating—
Average, $1.80 per sq. ft. of radiation, according to conditions.

Iron—Cost of ornamental iron, cast iron, etc., depends on designs.

Lumber (prices delivered to bldg.site)
Common, $23.00 per M (average).
Common O. P. select, average, $33.00 per M.

1 x 6 No. 3—Form lumber	$20.00 per M
1 x 4 No. 1 flooring	42.00 per M
1 x 4 No. 2 flooring	40.50 per M
1 x 4 No. 3 flooring	35.00 per M
1 x 6 No. 2 and better flooring	41.00 per M
1¼ x 4 and 6 No. 2 flooring	50.00 per M

Slash grain—

1 x 4 No. 2 flooring	$35.00 per M
1 x 4 No. 3 flooring	33.00 per M
No. 1 common run to T. & G.	30.00 per M
Lath	4.50 per M

Shingles (add cartage to prices quoted)—

Redwood, No. 1	$ .90 per bdle.
Redwood, No. 2	.75 per bdle.
Red Cedar	.90 per bdle.

Hardwood Flooring (delivered to building)—

13-16x3¼" T & G Maple	$135.00 M ft.		
1 1-16x2¼" T & G Maple	145.50 M ft.		
⅞x3½ sq. edge Maple	132.50 M ft.		
	13-16x2¼" T&G	¾x2" T&G	5-16x2" Sq. Ed.
Clr. Qtd. Oak	$220.00 M	$160.00 M	$178 M
Sel. Qtd. Oak	150.00 M	122.00 M	131 M
Clr. Pla. Oak	155.00 M	110.00 M	113 M
Sel. Pla. Oak	132.00 M	79.00 M	97 M
Clear Maple	147.00 M	101.00 M	
Laying & Finishing	16c ft.	15c ft.	13c ft.

Wage—Floor layers, $9.00 per day.

Building Paper—

1 ply per 1000 ft. roll	$4.00
2 ply per 1000 ft. roll	6.00
3 ply per 1000 ft. roll	9.25
Sash cord com. No. 7	$ 1.05 per 100 ft.
Sash cord com. No. 8	1.20 per 100 ft.
Sash cord spot No. 7	1.75 per 100 ft.
Sash cord spot No. 8	1.10 per 100 ft.
Sash weights cast iron	57.00 ton

Nails, $3.25 base.
Belgian nails, $3.00 base.

Millwork—
O. P. $85.00 per 1000. R. W., $92.00 per 1000 (delivered).
Double hung box window frames, average, with trim, $6.50 and up, each.
Doors, including trim (single panel, 1¾ in. Ore. pine) $7.00 and up. each.
Doors, including trim (five panel, 1¾ in. Oregon pine) $6.00 each.
Screen doors, $3.50 each.
Patent screen windows, 25c a sq. ft.
Cases for kitchen pantries seven ft. high, per lineal ft., $6.00 each.
Dining room cases, $7.00 per lineal foot.
Labor—Rough carpentry, warehouse heavy framing (average), $11.00 per M.
For smaller work, average, $22 to $30 per 1000.

Marble—(Not set), add 50c to 65c per ft. for setting.

Alaska	$1.40 sq. ft.
Columbia	1.40 sq. ft.
Golden Vein Yule Colo	1.70 sq. ft
Pink Lepanto	1.50 sq. ft.
Italian	1.75 sq. ft

Tennessee ..... 1.70 sq. ft.
Verde Antique ..... 3.00 sq. ft.

NOTE—Above quotations are for ⅞ inch wainscot in large slabs f.o.b. factory. Prices on all other classes of work should be obtained from the manufacturers.

Floor Tile—Set in place.

Verde Antique ..... $2.50 sq. ft.
Tennessee ..... 1.50 sq. ft.
Alaska ..... 1.35 sq. ft.
Columbia ..... 1.45 sq. ft.
Yule Colorado ..... 1.45 sq. ft.
Travertine ..... 1.60 sq. ft.

Painting—

Two-coat work .....30c per yard
Three-coat work .....40c per yard
Whitewashing ..... 4c per yard
Cold Water Painting ..... 8c per yard
Turpentine, 90c per gal. in cans and 75c per gal. in drums.
Raw Linseed Oil—$1.36 gal. in bbls.
Boiled Linseed Oil—$1.39 gal. in bbls.

Carter or Dutch Boy White Lead in Oil (in steel kegs)

Per. Lb.
1 ton lots, 100 lbs. net weight 12¾c
500 lb. and less than 1 ton lots 12½c.
Less than 500 lb. lots 12c

Dutch Boy Dry Red Lead and Litharge (in steel kegs)

1 ton lots, 100 lb. kegs, net wt. 12¾c
500 lb. and less than 1 ton lots 12½c
Less than 500 lb. lots.....13c

Red Lead in Oil (in steel kegs)

1 ton lots, 100 lbs. net weight 13¾c
500 lb. and less than 1 ton lots ...14c
Less than 500 lb. lots.....14¼c

Note—Accessibility and conditions cause wide variance of costs.

Patent Chimneys—

6-inch.....$1.00 lineal foot
8-inch..... 1.50 lineal foot
10-inch..... 1.85 lineal foot
12-inch..... 2.10 lineal foot

Pipe Casings — 14" long (average), $5.00 each.

Plastering—Interior—

	Yard
1 coat, brown mortar only, wood lath	$0.40
2 coats, lime mortar hard finish, wood lath	.52
2 coats, hard wall plaster, wood lath	.55
3 coats, metal lath and plaster	1.00
Keene cement on metal lath	1.25
Ceilings with ¾ hot roll channels metal lath	.67
Ceilings with ¾ hot roll channels metal lath plastered	1.40
Shingle partition ¾ channel lath 1 side	.62
Single partition ¾ channel lath 2 sides 2 inches thick	2.20
4-inch double partition ¾ channel lath 2 sides	1.30
4-inch double partition ¾ channel lath 2 sides plastered	2.45

Plastering—Exterior—

	Yard
2 coats cement finish, brick or concrete wall	$1.00
2 coats Atlas cement, brick or concrete wall	1.25
3 coats cement finish No. 18 gauge wire mesh	1.75
3 coats Atlas finish No. 18 gauge wire mesh	2.05
Wood lath, $4.50 per 1000.	
2.5-lb. metal lath (dipped)	.19
2.5-lb. metal lath (galvanized)	.22
3.4-lb. metal lath (dipped)	.24
3.4-lb. metal lath (galvanized)	.29

¾-inch hot roll channels, $45 per ton.
Hardwall plaster, $15.40 ton; $12.95 in paper sacks (rebate 15c sack).
Finish plaster, $16.40 ton; in paper sacks, $13.85 (rebate 10c sack).
Dealer's commission, $1.00 off above quotations.
Hydrate Lime, $19.50 ton.
Lime, f.o.b. warehouse, $2.25 bbl.; cars, $2.15
Lime, bulk (ton 2000 lbs.), $16.00 ton.
Wall Board 5 ply, $43.00 per M.

Composition Stucco—$1.60 to 2.00 per sq. yard (applied).

Plumbing—

From $60.00 per fixture up, according to grade, quantity and runs.

Roofing—

"Standard" tar and gravel, $5.25 per square for 30 squares or over.
Less than 30 squares, $5.50 per sq.
Tile, $19.00 to $35.00 per square.
Redwood Shingles, $11.00 per square in place.
Cedar Shingles, $10.50 sq. in place.
Recoat, with Gravel, $3.00 per sq.

Sheet Metal—

Windows—Metal, $1.80 a sq. foot.
Fire doors (average), including hardware, $2.00 per sq. ft. (not

Skylights—

Copper, $1.35 sq. ft. (not glazed).
Galvanized iron, 28c sq. ft. (not glazed).

Stone—

Granite, average, $5.50 sq. foot in place.
Sandstone, average Blue, $3.50; Boise, $2.60 sq. ft. in place.
Indiana Limestone, $2.60 per sq. ft. in place.

Store Fronts—

Copper sash bars for store fronts, corner, center and around sides, will average 75c per lineal foot.
Note—Consult with agents.

Steel Structural—$85.00 per ton erected). This quotation is an average for comparatively small quantities
Light truss work higher; plain beam and column work in large quantities, less.
Cost of steel for average building (erected), $82.00 per ton.

Reinforcing—

Base price for car load lots, $2.45 100 lbs., f.o.b. cars.
Average cost to install, $23 per ton.

Steel Sash—

All makes, from S. F. stock, 18c to 30c per square foot.
All makes, plant shipment, 18c to 30c per square foot.
(Includes mullions and hardware.)

Tile—White glazed, 75c per foot, laid.
White floor, 75c per foot, laid.
Colored floor tile, $1.00 per ft. laid.
Promenade tile, 80c per sq. ft., laid.

1930 WAGE SCHEDULE FOR SAN FRANCISCO BUILDING TRADES

(Five Working Days)

Craft	Journeymen Mechanics
Asbestos workers	$ 8.00
Bricklayers	11.00
Bricklayers' hodcarriers	7.00
Cabinet workers, (shop)	7.50
Cabinet workers, (outside)	9.00
Carpenters	9.00
Cement finishers	9.00
Electric workers	9.00
Electrical fixture hangers	8.00
Elevator constructors	10.00
Elevator helpers	7.00
Engineers, portable and hoisting	9.00
Glass workers	8.50
Hardwood floormen	9.00
Housemovers	8.00
Housesmiths, arch. iron, skilled all branches	9.00
Housesmiths, arch. iron, not skilled all branches	8.00
Housesmiths, reinforced concrete, or rodmen	9.00
Iron workers (bridge & structural) including engineers	11.00
Laborers, building (6-day week)	5.50
Lathers, channel iron	10.00
*Lathers, all other	8.50
Marble setters	10.00
Marble helpers	6.00
Marble cutters and copers	8.00
Marble bed rubbers	7.50
Marble polishers and finishers	7.00
Millmen, planing mill department	7.00
Millmen, sash and door	6.00
Millwrights	8.00
Model makers	10.00
Model casters	9.00
Mosaic and Terrazzo workers	9.00
Mosaic and Terrazzo helpers	6.00
Painters	9.00
Painters, varnishers and polishers (shop)	7.50
Painters, varnishers and polishers (outside)	9.00
Pile drivers and wharf builders	9.00
Pile drivers engineers	10.00
Plasterers	11.00
Plasterers' hodcarriers	7.50
Plumbers	10.00
Roofers, composition	8.00
Roofers, all others	8.00
Sheet metal workers	9.00
Sprinkler fitters	10.00
Steam fitters	10.00
Stair builders	9.00
Stone cutters, soft and granite	8.50
Stone setters, soft and granite	9.00
Stone carvers	8.50
Stone derrickmen	9.00
Tile setters	10.00
Tile helpers	6.00
Auto truck drivers, less than 2500 lbs.	5.50
Auto truck drivers, 2500 to 4500 lbs.	6.00
Auto truck drivers, 4500 to 6500 lbs.	6.50
Auto truck drivers, 6500 lbs. and over	7.00
General teamsters, 1 horse	5.50
General teamsters, 2 horses	6.00
General teamsters, 4 horses	6.50
Plow teamsters, 4 horses	6.50
Scraper teamsters, 2 horses	6.00
Scraper teamsters, 4 horses	6.00

*On wood lath if piece rates are paid they shall be not less than such an amount as will guarantee, on an average day's production of 1600 lath, the day wage set forth.

Eight hours shall constitute a day's work for all Crafts except as otherwise noted.

Plasterer's hodcarriers, bricklayers' hodcarriers, roofers, laborers, and engineers, portable and hoisting, shall start 15 minutes before other workmen, both at morning and noon.

Five days, consisting of eight hours on Monday to Friday inclusive, commencing January 31, 1930, shall constitute a week's work.

Overtime shall be paid as follows: For the first four hours after the first eight hours, time and one-half. All time thereafter shall be paid double time. Saturday (except laborers), Sundays from 12 midnight Friday, and Holidays from 12 midnight of the preceding day shall be paid double time. On Saturday laborers, building, shall be paid straight time.

Where two shifts are worked in any twenty-four hours shift time shall be straight time. Where three shifts are worked, eight hours pay shall be paid for seven hours on the second and third shifts.

All work shall regularly be performed between the hours of 8 A. M. and 5 P. M., provided, that in emergencies or where premises cannot be vacated for work by mechanics until the close of business, men then reporting for work shall work at straight time; but any work performed after midnight shall be paid time and one-half except on Saturdays, Sundays, and holidays, when double time shall be paid.

Recognized holidays to be New Year's Day, Decoration Day, Fourth of July, Labor Day, Admission Day, Thanksgiving Day and Christmas Day.

Men ordered to report for work, for whom no employment is provided, shall be entitled to two hours pay.

The ARCHITECT AND ENGINEER

FEBRUARY
1930

OTIS

SIGNAL CONTROL ELEVATORS

IN

PACIFIC COAST CITIES

Merchants National Trust & Savings Bank Building
Los Angeles

*Southern California Telephone Company Building
Los Angeles

Board of Trade Building
Los Angeles

Russ Building
San Francisco

Hunter-Dulin Building
San Francisco

Pacific Telephone and Telegraph Building
San Francisco

Four-Fifty Sutter Building
San Francisco

*Shell Oil Company Building
San Francisco

Public Utilities Building
Portland

Paulsen Medical and Dental Building
Spokane

Fourteen-Eleven Fourth Ave. Building
Seattle

Shopping Tower Building
Seattle

Medical-Dental Building
Vancouver

OTIS ELEVATOR COMPANY

OFFICES IN ALL PRINCIPAL CITIES OF THE WORLD

*Under Construction.

VOLUME C
NUMBER 2

The ARCHITECT AND ENGINEER

FEBRUARY
1930

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ENTRANCE DETAIL, HOUSE OF LITA GREY CHAPLIN, BEVERLY HILLS

ROY SELDON PRICE, ARCHITECT

The
ARCHITECT
AND ENGINEER

VOLUME C FEBRUARY, 1930 NUMBER TWO

HOUSE OF LITA GREY CHAPLIN BEVERLY HILLS, CALIFORNIA

WHEN one hears that an architect has been commissioned to prepare plans for a home for a motion picture star, the thought at once occurs that the architect is going to have unlimited funds with which to carry out his ideas. And it seems to be an accepted fact that he may proceed to give his client something out of the ordinary—a house that will be a show place for the owner's friends and visitors—more showy, perhaps, than comfortable.

In designing the residence in Beverly Hills, California, for Lita Grey Chaplin, former wife of Charlie Chaplin, the architect, Roy Seldon Price, has happily not attempted to follow the accepted idea referred to just because his client is a member of the motion picture colony. On the other hand he has striven for simplicity and comfort. Furthermore Price has demonstrated in his Chaplin house that it is not essential to slavishly follow even a traditional style. His aim has been for livability, convenience, outlook, exposure; to express simply the feeling of "homey" comfort in an informal way. The grounds, with their swimming pool, lawns, shrubbery and easy chairs, carry the same atmosphere of domestic comfort.

Close attention has been paid by the architect to all interior details that would in any way lend comfort to the occupants. Modern conveniences are embodied in the equipment of the house and an added feature that undoubtedly affords much pleasurable entertainment to its owner and guests, is a pipe organ. This was added when the house was almost completed and was made possible by a clever arrangement of the architect. The organ chamber was buried beneath the inner garden in a water-proof concrete room connected by a tunnel with the house basement.

The pictures illustrating the Chaplin house are the first to be published and THE ARCHITECT AND ENGINEER feels honored in being privileged to show in detail Mr. Price's latest, and we think, one of his best achievements, in domestic architecture.

ELEVATION, HOUSE OF LITA GREY CHAPLIN, BEVERLY HILLS
ROY SELDON PRICE, ARCHITECT

Photo by Miles Brue

HOUSE OF LITA GREY CHAPLIN, BEVERLY HILLS, CALIFORNIA
ROY SELDON PRICE, ARCHITECT

Photo by Miles Berne

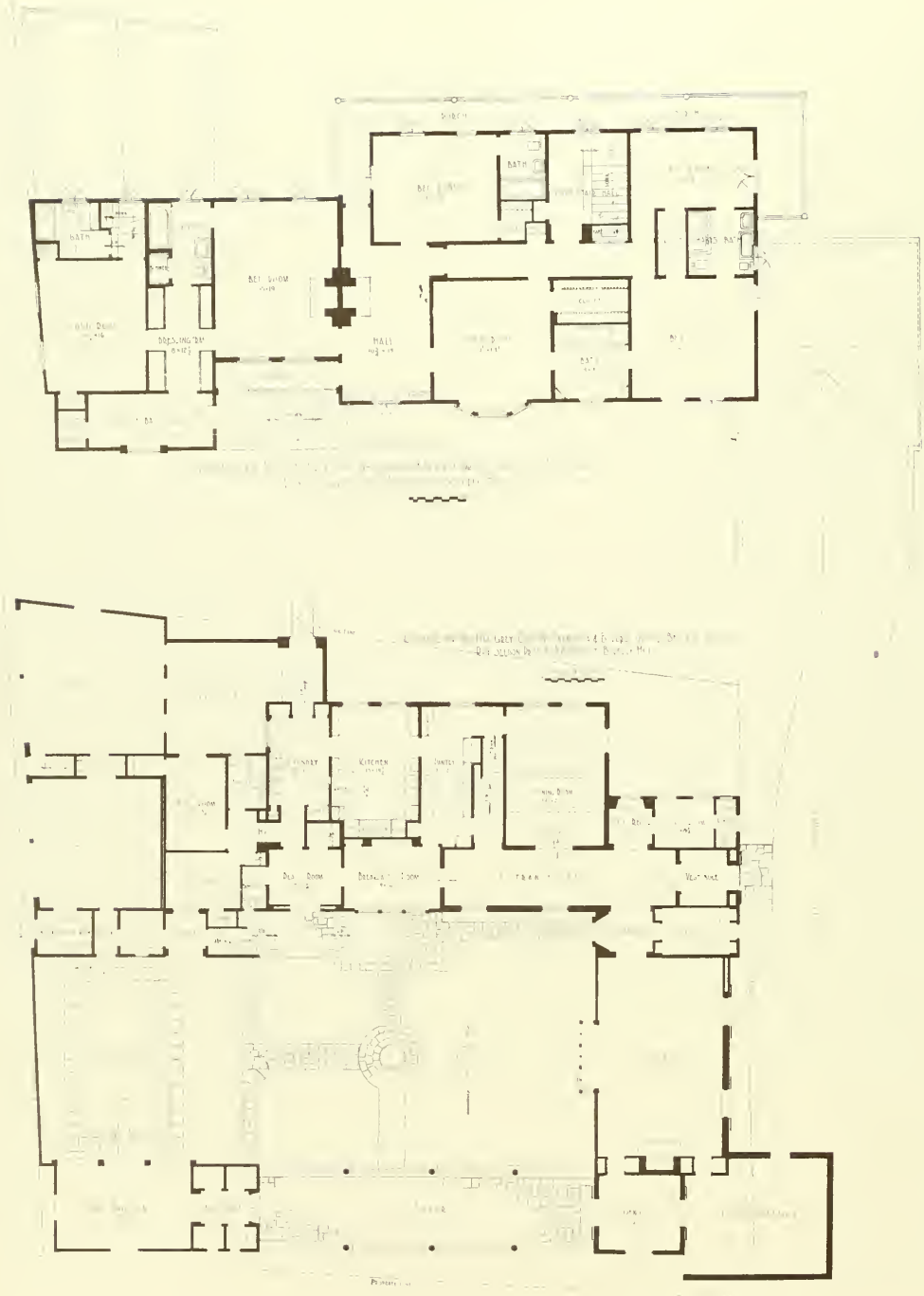
GARDEN ELEVATION, HOUSE OF LITA GREY CHAPLIN, BEVERLY HILLS
ROY SELDON PRICE, ARCHITECT

Photo by Miles Beaue

Photo by Miles Berne

THE POOL, HOUSE OF LITA GREY CHAPLIN, BEVERLY HILLS

ROY SELDON PRICE, ARCHITECT



PLANS, HOUSE OF LITA GREY CHAPLIN, BEVERLY HILLS
ROY SELDON PRICE, ARCHITECT

RECEPTION HALL, HOUSE OF LITA GREY CHAPLIN, BEVERLY HILLS
Roy Seldon Price, Architect

BREAKFAST ROOM

HOUSE OF LITA GREY CHAPLIN

BEVERLY HILLS, CALIFORNIA

Roy Seldon Price,
Architect

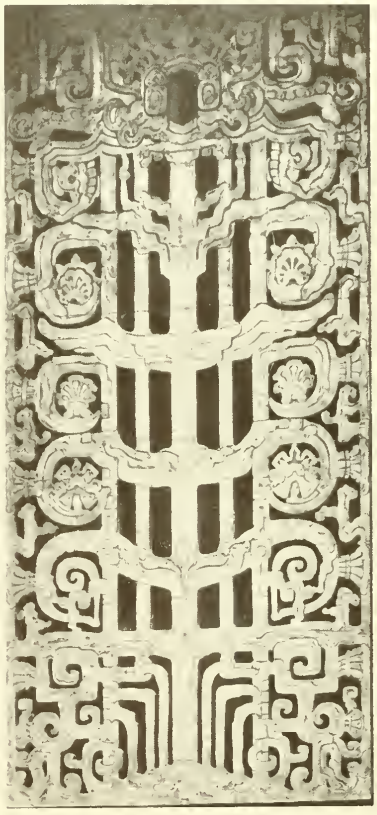
CIVILIZATION: METAL and ARCHITECTS

By Wm. I. Garren, A.I.A.

AB'S eyes danced as he watched his father carefully build a fire against the wall of the cliff. Just outside the cave towered a huge cliff of red paint rock. For weeks the father had dried and baked logs of wood in an earth pit, until they were charred and black; and now a raised oven having been built, the charred wood was carefully piled against the wall of rock. Proudly Ab, with a braided rope around his sturdy little shoulders, dragged wood for the fire. Why should he not be happy — a new ax was to be his reward, heavier and stronger than his old flint weapons.

The two then waited for the strong wind to come that would howl and fan the flames, melting and reducing the rock walls of the cliff. After weeks had passed the wind came up and an ember from the permanent fire was carried over and the big oven fire was started.

At last the fire burned down, the charcoal was gone, the embers cleared. The child could hardly be patient any longer as the Wise One removed the small ball of black metal from the bed of coals and started pounding it between two rocks. Ab's ax was finished and lashed between a split limb. Civilization was beginning. Off to the forest he ran with glee, felling small trees and swinging his new ax about at random in play. On the walls of a nearby cave he carved, with the sharp point of his ax, the picture of a reindeer he had seen in the big stream. Tired and excited with ecstasy over his new, efficient weapon, sleep possessed him; and down through the ages he dreamed and played with his magic metal wand, puddling, welding, forging, casting and rolling, ever onward advancing through fifty centuries of man's struggle and play.



The title for this door, executed in cast iron, should be "Nerve." The architect had it, the design possesses it. Strong, pulsating and yet withal static and architectural. Entrance detail, 450 Sutter Street, San Francisco, Miller & Pflueger, Architects.

As his civilization progressed, Ab had time for leisure and thoughts of the beautiful possessed him. Now beauty and use combined, and his world was to know Architecture. In metal, as in structures, designing for use alone gave only industrial and commercial value, not art value. Thus the two families of metals separated into the commercial metals and architectural metals.

* * *

Today the architect is concerned both with structural metal or industrial metal, which he specifies or selects from standard products, also architectural metals, which he fashions for himself. Into the atoms and fibers of the slaggy structure he impregnates the art life of the form. That form should follow function seems established beyond question. The architect must budget his materials and select for each part of the structure that material which is best suited. What

Editor's Note: The descriptive titles are by "Garren."

function suggests to the architect the use of metal in his design? Is it the quality of permanence? Metal has that property, to be sure; however, permanence is hardly a function. Permanence is rather an inherent quality a metal instinct. Is it durability that suggests its use? Durability conots structure, rather than art, and architectural materials must possess art potentialities. Perhaps strength is a function. At least in metals, tenstile, compressive and malleable strength does function. It is further important that these characteristics are not only known to the architect but to the public and to the investor, to whom it has the advertising value of a known quality material. But strength alone does not explain the art of iron and bronze, nor its primary function. It appears upon study that architectural metals suggest themselves to the architect for one very important and simple reason. Iron, and any other architectural metal, is the one material that will permit the greatest reduction of cross section, or, inversely, it is the material in architecture that, because of its high tenstile strength, permits the largest area of free or open space in design?

Let us examine a few parts of the building where materials are to be chosen. The material which will function best should make the most beautiful form. A screen for the bank is required, the outsider must be able to see through to the wealth beyond, and yet he must be assured that his funds will be protected. Metal immediately suggests itself, the bronze screen functions perfectly. The gate to the property must indicate that privacy is desired; it must be durable and withstand rough use; but that is not all, for vanity and pride must be considered. We build beautiful homes partly for our own pleasure, and partly to receive the admiration of our neighbor who also must enjoy with us the house and its new tulip bed. Passing, he may glance beyond the gate. Just enough material for protection, just enough space through which to gaze. Thus the silhouetted pattern of leaves and bars of iron function, and form follows. The stair rail: already the stair projects its volume too greatly into the rotunda. The stair must be railed above the structure with material sufficiently heavy to protect, sufficiently open to lighten the form. Metal again suggests itself in cast or wrot scrolls or Renaissance pattern. In the early California or Spanish home the open rail, with wide spaced balusters, interrupts the com-

Conventional form carried almost to the point of the abstract: this design worked into aluminum casting throbs with its own life and holds the observers' attention. Panel over doorway, 450 Sutter Street, San Francisco, Miller and Pflueger, Architects.

PRESENTING A SOLID FRONT, TESTIFYING TO THE SECURITY OF THE INSTITUTION, AND TO THE INTEGRITY OF THE FOUNDER; THESE IDEAS SEEM CLEARLY TO BE THE FUNCTION OF THIS CAST IRON PLATED DOORWAY TO CENTRAL BUILDING & LOAN ASSOCIATION, OAKLAND, WILLIAM E. SCHIRMER, ARCHITECT. JOHN STOLL, SCULPTOR.

A METAL SCREEN AND DOORWAY POSSESSING DIGNITY, BEAUTY OF DETAIL AND SURFACE. LEAFAGE AND ORNAMENTS REFLECT A FINE APPRECIATION OF DESIGN AND SKILL IN CRAFTSMANSHIP. SUMMIT MEDICAL BUILDING, OAKLAND. ASHLEY, EVERS & HAYES, ARCHITECTS.

GROWING AND FLOWING THIS DESIGN IN WROUGHT IRON DISPLAYS A WELL BALANCED PATTERN WITH A FINE PLANE QUALITY; A BEAUTIFUL COMPOSITION. RESIDENCE IN OAKLAND, CHARLES W. McCALL, ARCHITECT

THIS RAIL IN IRON CLIMBS IN WELL ORDERED LINES AND FORM UP THE STAIR, FUNCTIONING AS A GUARD AND GUIDE AND FORGED WITH SKILL AND BEAUTY. RESIDENCE IN OAKLAND, CHARLES W. McCALL, ARCHITECT

position and in half-tone fashion composes the beautiful Moorish tiles and the graceful ascending line of wall and treads. The illustrations shown herewith, the work of California architects and craftsmen, demonstrate these uses.

So it is in metals the architect may design in freedom, with surface and space, modelling to his slightest pencil line to fill a need to please an eye. Grilles, cabs, window sash, screens, balconies and accessories, and the home present, from foot scraper to weather vane, romantic indications in metal bespeaking hospitality.

* * *

An old rediscovered art has interested architects of recent years. A love and appreciation of the latent qualities of materials has been renewed. Solid surface design, surface texture and physical or molecular structure are now given consideration. Natural color values and materials combined to create vibrations, to "click" as the slang phrase goes. Many new metals have come into use throughout the world in the modern style. With iron all are familiar. In bronze there are many developments of yellow brass, red brass, and phosphor bronze; all slightly different in color and properties and interesting in combination. These metals may be bent after casting; a property which iron does not possess. A new metal, benedict nickel and its ally monel metal, may be cast and extruded. Aluminum, the metal of modern design, gives new white color and ribbon textures and may be wrought, cast, or extruded and it bends after casting. These variations of color, black, yellow, red and white, offer the architect no end of possibilities in beautiful and intricate new designs.

* * *

Let us now half close our eyes and go back to the cave where Ab sleeps and dreams. We, too, can gaze into the crystal ball of Architecture and Art and into the future. With metals lighter than water and stronger than steel we will grille the windows of our air transports. Perhaps with copper appliqued over aluminum and painted with sensitized lacquer, we will design irridescent arabesques for night club mirrors. Chromium plated repoussè tracery over red griotte marble may line the walls of our baths. Benedict non-skid nickel castings, inlaid with California mosaic tiles in color and richness beyond the dreams of Persia, will pave our floors. Yes, with the assistance of skilled craftsmen, we will build into our works the history of an age of machines and inventions and industrial magic, all with lines and forms of alluring beauty. We will forge and spin and cast and draw our metals. We will plate them and chase them. Their forms await our hands, dreamers, creators, recorders of history Architects.

Medallion over entrance to Central Building and Loan Association Building, Oakland. John Stoll, Sculptor. William E. Schirmer, Architect.

Photographs illustrating this article courtesy Michel & Pfeffer Iron Works, San Francisco.

THE DEVELOPMENT of the GROUP HOME

By E. Kolikowska

IN spite of the increasing tempo of present-day existence, one trait man inherits from his earliest ancestors remains stubbornly dominant: the desire for a home. Merely a dwelling-place—a roof over his head and four walls about him—will not suffice, no matter how adequately lighted and heated, nor how well supplied with the electrical conveniences that are no longer luxuries. These may be the demands of his existence, but the need of his life is a home.

Sadly enough, for most men, it is not until their productive days are drawing to a close that they are able to realize this need, when they can provide themselves and their families with surroundings of grace and leisure, secure in the knowledge of performance. And yet, it is perhaps the active worker who has greater need of just these things, the man whose business is dragging him inexorably forward, who today may be here, and next month, next year, on the other side of a continent. He needs the stimulus of beauty in his surroundings to keep him fit for the swift pace, but he lacks the leisure to crystallize his dreams into the material form of a home.

He tries to content himself with the space-conserving unloveliness of an apartment, and is constantly unsatisfied, roving from one to another within the same city, in vain search of something that will meet his needs. Occasionally he finds what he seems to crave in a spacious old mansion, remodeled into small apartments, until he abandons its rattling casements and antiquated plumbing in disgust, for the efficient angularity of a newly-constructed building which is only a replica of his office.

It is but recently that he has been able to find the perfect compromise. Comfort and charm are not incompatible, as Casebolt Dakin has proved more than adequately in his design of Cielito Lindo in Oakland.

California, one must admit, owes most to her Spanish origins, and it is thus quite natural that a large number of her homes should make recognition of this debt. Especially so, since it is a prime means of enhancing natural advantages. Brilliant sunshine and cloudless skies call for the dazzling defiance of white stucco and red-tiled roofs, for luxuriant, semi-tropical growth and splashing fountains, for low-arched openings in thick masonry, beckoning to a cool interior.

In his finest achievement, Mr. Dakin has wisely turned to Spain for inspiration. He has taken an irregular piece of land, sloping from a hilltop where tall pines are still arrogantly defiant of the city streets hemming them in, and on it created a pattern that brings to the New World a homesick memory of the Old, with still a haunting promise of a world one has not yet known —Cielito Lindo.

It has an air of multiplicity and yet of unity. It might be a group of little homes clustered about a common garden; it might be the country villa of an Iberian don, with generous, hospitable additions.

And what attractions the interior reveals! Again one is impressed by the separateness

of each dwelling: each one has its own front door, each its own decorative treatment; most have, as well, individual staircases leading to upper levels. Here is the seclusion of the private home compressed into a space that secures the amenities of existence at the smallest expense of time and labor. Here is the desirable compactness of the modern apartment fitted cunningly into an exterior that does not suffer from the insignificance of the small house.

CIELITO LINDO APARTMENTS, OAKLAND, CALIFORNIA
Casebolt Dakin, Architect

An irregularly shaped hallway leads into a living-room whose proportions are almost majestic. Rough-textured walls of soft umber rise a full two stories to a dark-beamed ceiling of paler tone, stencilled in alternate panels of faded red and blue. At one end a magnificent oriel presents a view of the patio through tiny leaded panes; at the other, a low pointed arch, embellished with bright tiles, gives access to a small study, two steps below the level of the living-room. Above it, a studio balcony, supported on heavy carved beams, looks down upon the larger room.

One room is large, for the luxury that spaciousness gives; the others smaller, for the precious boon of convenience. The dinette, that delightful hybrid of dining and breakfast-rooms, belies its cosiness in permitting eight people to be comfortably served in it; and the kitchen has a nice regard for the housekeeper bent on step-saving. These very modern kitchens are electrically equipped throughout, with ranges, dish-washers, ventilating fans and refrigeration.

There are long, low rooms suggestive of a cottage in the Pyrenees, each with a semi-circular fireplace, tucked cosily in one corner. There are rooms with demure small windows; rooms whose end walls seem an

expanse of light. There are lighting fixtures throughout of hand-wrought metal, following various designs according to the spirit of the rooms which they adorn. There are stairways austerely straight and others graciously curved; there is one tiny spiral stair winding its way to a tower room that prides itself on being able to overlook the whole scene. Of all the various levels, this is the highest.

Hardly a home, from the largest to the smallest, of only three rooms, is built all on one level. The break from the polished boards, wide and hand-pegged, of a living-room, to the flagged flooring of a study, is softened by a tiled step or two. A small studio gains in apparent size by a wide opening into a bedroom beyond, but is effectively separated from it by the differing levels.

The smallest unit has its expansive qualities, achieved in other ways. There are extra baths, extra dressing-closets, and ingeniously concealed wall-beds to add desirable guest-quarters for emergenices. Servants' quarters are relegated to another part of the building.

If these homes of various dimensions are alike in anything, it is in the sense of gracious living pervading all. There is a similarity in all artistic surroundings, but a difference of detail sets each one apart. Every floor-plan is arranged to make the most efficient use of all available space, but the result in each case is arrived at after a different manner. Every detail of decoration is so harmonious that a single inspiration is pervasive of the whole. There is a likeness among the homes in that each one is unique.

Here, at last, is the perfect combination of small home and large. Spacious living

GARDEN VIEW, CIELITO LINDO APARTMENTS, OAKLAND, CALIFORNIA
Casebolt Dakin, Architect

rooms and a dignified exterior emphasize a life of leisure and beauty; the mechanics of existence are removed to their properly subsidiary place, without being in the least neglected. The home-coming occupant, turning in at the wrought-iron patio gate, or passing more impressively through the opposite entrance—a high Tunisian arch elaborated with sgraffito, and hung with feudal oaken doors—feels himself a prideful owner of the whole, with a particular niche adapted to his own tastes.

He drops his worldly cares as he steps from city streets to the dreaming peace of the country, and marvels at the quiet and seclusion to be found in a spot not twenty minutes' travel from his downtown office. He may pause along the cloister, or mount to an overhanging balcony, to admire anew the beauty of the patio, rich with greensward, luxuriant with foliage, musical with the soft flow of water spouting from a stone lion's mouth and cascading a little distance to a stony pool, before he turns to the sanctuary of his own home.

The surest way to know the essence of Cielito Lindo is to see it under moonlight. Here are windows darkened, windows alight, windows with curtains drawn. The lights throw slanting beams, picking out a row of brilliant tile; the moon makes roof-peaks curiously iridescent, casts strange shadows down the pallid walls. The patio is wrapped in darkness; the irregular splash and ripple of water in the pool cuts the night into sharp definition of sound and silence. A wind whispers with gentle melancholy in the tops of the pine trees. A seemingly far-off thread of sound resolves itself into a tune. Somebody's radio? Perhaps; but, under the spell of this compelling magic, can one deny that it is a serenading guitar?

In Cielito Lindo, Casebolt Dakin has made real the dreams of the present and set an ideal for the future.

PATIO, CIELITO LINDO APARTMENTS, OAKLAND CALIFORNIA
CASEBOLT DAKIN, ARCHITECT

PLANS, CIELITO LINDO APARTMENTS, OAKLAND, CALIFORNIA
CASEBOLT DAKIN, ARCHITECT

ENTRANCE, CIELITO LINDO APARTMENTS, OAKLAND, CALIFORNIA
CASEBOLT DAKIN, ARCHITECT

STUDIO, CIELITO LINDO APARTMENTS, OAKLAND, CALIFORNIA
CASEBOLT DAKIN, ARCHITECT

NEW OLYMPIC CLUB BUILDING, SAN FRANCISCO

ARTHUR BROWN, JR., JOHN A. BAUER AND JOHN BAKEWELL, JR., ASSOCIATED ARCHITECTS

SMITH-YOUNG TOWER BUILDING, SAN ANTONIO, TEXAS

ATLEE B. AND ROBERT M. AYRES, ARCHITECTS

MAIN ALTAR, ST. DOMINIC'S CHURCH, SAN FRANCISCO
ARNOLD CONSTABLE, ARCHITECT

REAR ELEVATION, MAIN ALTAR, ST. DOMINIC'S CHURCH, SAN FRANCISCO
ARNOLD CONSTABLE, ARCHITECT

NEREID FOUNTAIN BY BEATRICE FENTON
PHOTO BY W. VIVIAN CHAPPEL

SEAWEED FOUNTAIN BY BEATRICE FENTON

HOUSE FOR JAMES S. COLE, SAN MATEO, CALIFORNIA

HERBERT ALDEN, ARCHITECT

G. W. Williams Company, Burlingame, Builders

GARDEN SCULPTURE

By
W. M. Strother

THE American Sculpture Exhibition recently conducted in San Francisco, presented many very beautiful specimens of statuary for garden decoration. It was the first time the Pacific Coast has had an exclusive sculpture exhibition of national importance. No location could have contributed more fully to demonstrate the possible harmony among the three arts of sculpture, architecture, and landscaping than that of the California Palace in Lincoln Park, San Francisco. Here, on the summit of a high hill among the green lawns of the golf links, stands the fine museum building, simple yet stately, with its background of the Pacific Ocean and the western sky—blue or gray or golden, according to Nature's mood—the straits and the Marin County hills, the Golden Gate, and the undulating City of San Francisco. Let us reflect and enumerate some of the interesting exhibits which seemed to appeal most to the landscape architect:

In front the large pool with its splashing fountain, and adorned with lively figures — Leonard Craske's "Joy of Life" and Beatrice Fenton's "Seaweed Fountain" and "Nereid Fountain." The lawns and balustrade which surround the building were set with pieces appropriate to their location; large monuments such as the Jeanne d'Arc and El Cid, by Anna Hyatt Huntington; the same artist's Guardian Dogs; Laura Gardin Fraser's "Reclining Elk"; and many others, including, also, wall and pool fountains, by Chester Beach and others.

"NARCISSUS" BY A. A. WEINMAN

Two wings of the building surround an outdoor colonnaded "Court of Honor", where lawns and shrubbery were appropriately adorned, as, for example, by Adolph A. Weinman's stone garden figure of "Narcissus", Harriet W. Frishmuth's "The Trio"—a bronze fountain of three frogs upholding lily pads—sun dials by Leo Lentelli, Brenda Putnam, and Willard D. Paddock, as well as fauns and pans and penguins, bird baths and fountains, decorative garden figures of birds and other kinds.

Inside the Palace building—which was adapted from the Palace of the Legion of Honor in Paris but was re-designed as a fine arts museum—in sixteen of the nineteen galleries were exhibits of sculpture of every conceivable kind and in all possible media from plaster and wood to brass, terra cotta, porcelain, limestone, marble, and bronze to name only part of them—and designed for all possible purposes from home decoration to civic monuments and architectural decoration. In size the exhibits

ranged from a couple of inches in height, as in the case of some of Louis Rosenthal's tiny bronzes, to large monumental and architectural pieces. The particularly fine lighting of the building—a matter of especial importance to a museum—enabled the adequate display of the exhibits.

other statues. A "Garden Figure" of heroic size, by Wheeler Williams, and carved in stone, represented the figure of a woman in simplified modeling—a piece designed to stand beside a pool.

Grace Talbot's wall fountain was a dainty example of the treatment of this subject: a

"THE TRIO," BY HARRIET FRISHMUTH

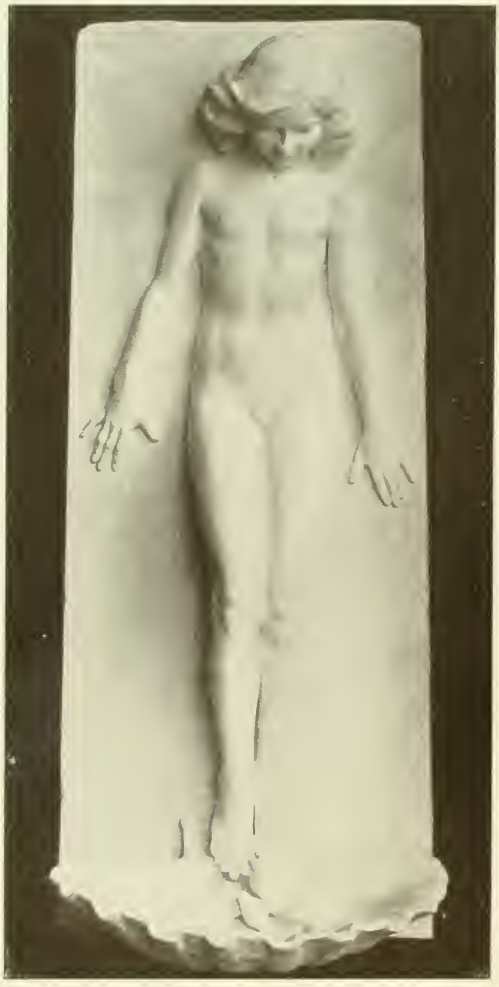
The inside sculptures, as well as those outside, illustrated very well the forms that may be used in connection with landscaping as well as architectural decoration and all other purposes. Paul Manship had two large gilded bronze outdoor groups in a distinctive style of modeling, one representing Diana and the other Actaeon. Edward McCartan also had a Diana in a more conservative style, and this Greek and Roman goddess was the subject of numerous bronze maiden stepping gingerly at the edge of a large shell and looking down at the smaller bivalves at her toes. The same type of large shell was used in a bird bath by Olympio Brindesi; in this case the artist has the bronze girl upholding the shell on her shoulder, while at her feet, at the edge of the circular base, are three fish from whose mouths spring streams of water.

Children's figures, serious or gay, were used in many fountains and other pieces.

FOUNTAIN, "THE FROG BABY," BY EDITH B. PARSONS

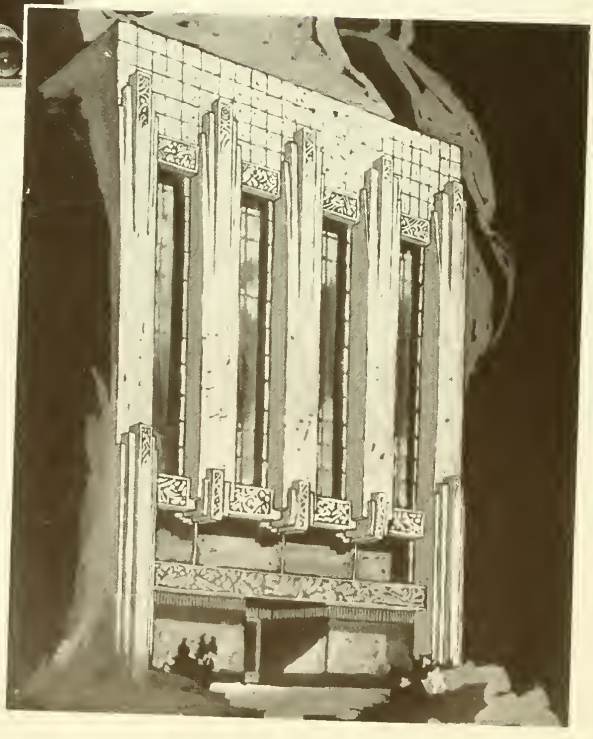
For example, one was a bronze baby with head thrown back in laughter, standing on a sphere, which, in turn, was supported by four frogs. Streams of water poured from the mouths of these animals. The baby in each hand also held a frog dangling by one leg. This piece was by Edith Barretto Parsons. A larger example was the "Neptune's Daughter" by M. Earl Cummings of San Francisco—a child standing atop the back of a sea horse—the whole being designed for the patio of a private residence.

The Exhibition was sponsored by the National Sculpture Society, whose headquarters are in New York City but whose membership is nation wide. The assembling of the show was financed by Dr. Archer Milton Huntington of New York, who volunteered to present the Society with $100,000 for this purpose. The Exhibition was opened to every American sculptor, whether a member of the Society or not, and regardless of what type of work he was doing, whether classical, academic, modernistic, or what not, so long as a high standard of artistic ability and craftsmanship was displayed, in the opinion of the Society's jury.



WALL FOUNTAIN BY GRACE TALBOT

THE PICTURE ON THE LEFT SHOWS THE OLD ARCADE BUILDING IN SAN DIEGO, BUILT TWENTY YEARS AGO, AND UNRENTABLE BECAUSE OF ITS UNDESIRABILITY



ON THE RIGHT IS ARCHITECT HERBERT J. MANN'S VISUALIZATION OF THE SAME BUILDING, WHEN ALTERED AND MODERNIZED

(See photo of completed structure on Page 76)

GOOD ARCHITECTURE MADE THIS BUILDING RENTABLE

HOW an architect may change the appearance of a commercial building so that it becomes a source of income to the owner and tenant, instead of a financial loss, is demonstrated in the accompanying views of a San Diego building. The architect, Herbert J. Mann of La Jolla, California, explains his problem and subsequent accomplishment in the following notations:

"This particular building, which was known as the old Arcade is 50x200 feet, running through from Fourth to Fifth street in San Diego. The building is about twenty years old and prior to the alterations, had never been a paying proposition.

"It was used as an arcade, dance hall and various other ventures, none of which were profitable. The previous tenant spent considerable money in building plaster columns, arches and various elaborate structures on the interior which only served to cut off the light and did not add to the appearance of the building. All of this work was torn out.

"In remodeling the exterior no structural changes were made, the columns, beams and girders being left exactly as they were. The old sash were taken out and the plate glass salvaged to go into the new steel sash. Five feet was added to the parapet wall, which was not a structural change.

"The exterior color is pink, the ornamentation silver and black.

"This building is located in the heart of the downtown district of San Diego, and the property is very valuable. The cost of the remodeling was a very small percentage of the actual value of the property and has resulted in creating, to all intents and purposes, a modern up-to-date building.

"The work was done by the tenant and has resulted in showing so profitable and active a business that he is now considered to have one of the leading furniture stores in San Diego."

CLOSE-UP VIEW OF REMODELED ARCADE BUILDING, SAN DIEGO
Herbert J. Mann, Architect

REMODELED ARCADE BUILDING, SAN DIEGO, CALIFORNIA
HERBERT J. MANN, ARCHITECT

Vacation Sketches

in

British Columbia

by

W. C. F. Gillam, *Architect*

San Mateo, California

ALTA LAKE, BRITISH COLUMBIA

SKETCH BY W. C. F. GILLAM, ARCHITECT

THE CREEK AT RAINBOW LODGE, BRITISH COLUMBIA

SKETCH BY W. C. F. GILLAM, ARCHITECT

THE FIREPLACE AT RAINBOW LODGE, BRITISH COLUMBIA

ROUGH SKETCH BY W. C. F. GILLAM, ARCHITECT

CHRIST CHURCH CATHEDRAL, VICTORIA, BRITISH COLUMBIA

SKETCH BY W. C. F. GILLAM, ARCHITECT

WOOD FIBRE PLANT, BRITISH COLUMBIA

SKETCH BY W. C. F. GILLAM, ARCHITECT

ENGINEERING

and

CONSTRUCTION

SUISUN BAY BRIDGE, DECEMBER 9TH, 1929

Featuring

The Southern Pacific $12,000,000 Steel Bridge
over Suisun Bay, California

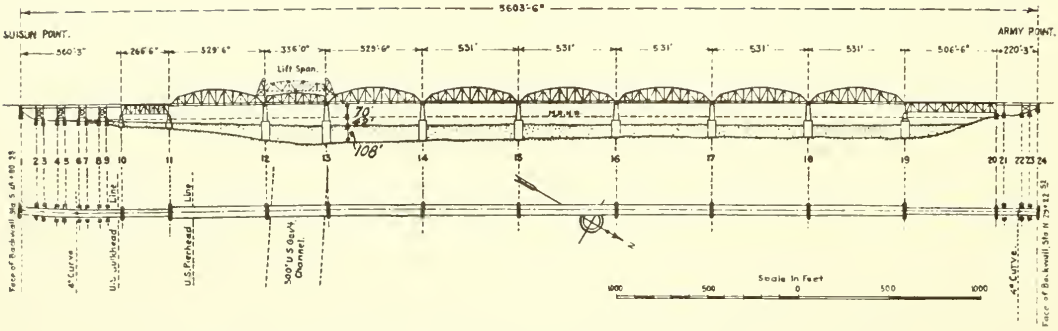


FIG. 2—SUPERSTRUCTURE, SUISUN BAY BRIDGE, NEAR BENICIA, CALIFORNIA

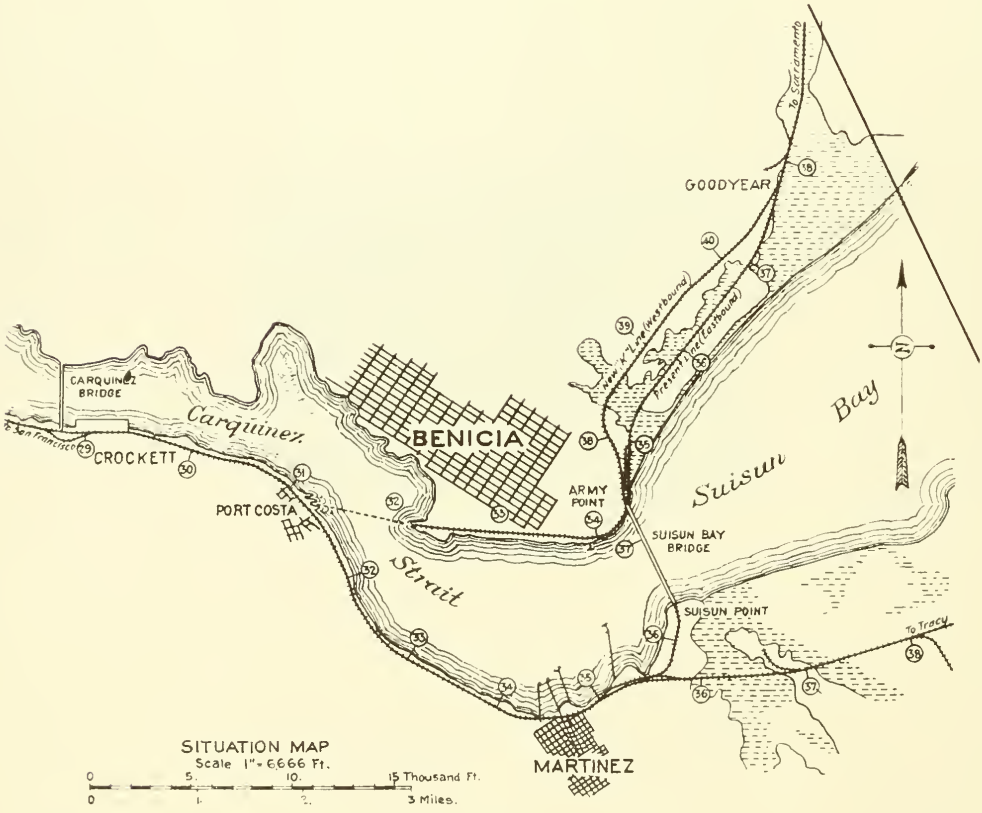


FIG. 1—SITUATION MAP, SUISUN BAY BRIDGE, NEAR BENICIA, CALIFORNIA

THE SOUTHERN PACIFIC SUISUN BAY BRIDGE

By C. R. Harding

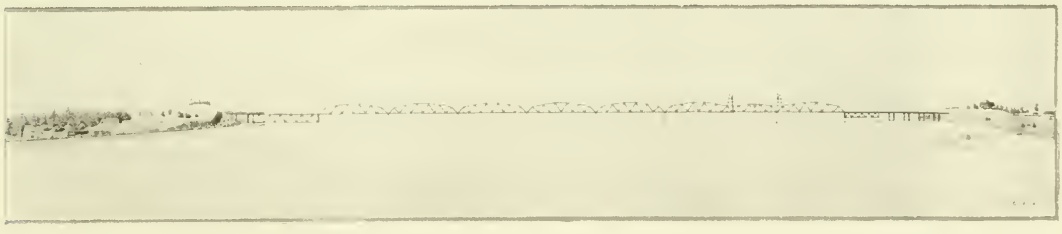
IN determining the location and design of the new $12,000,000 double-track bridge which is to replace the Southern Pacific's train ferry between Port Costa and Benicia, California, consideration was given to the proximity of earthquake faults and the probable intensity of shock that may be expected therefrom. The findings of noted geological and seismological authorities engaged in this study revealed the presence of two faults whose approximate courses extended under the waters of Carquinez Strait.

One of these, known as the Southampton fault, lies about one mile west of the town of Martinez and extends in a northwesterly direction, following closely the axis of Southampton Bay. As this is an important fault with large displacement, it was found extremely undesirable to locate the bridge across it.

The other, or Martinez fault, passes through the town of Martinez but can not be identified on the opposite side of Carquinez Strait or Suisun Bay. Its projected course under the water extends in a northeasterly direction toward Goodyear and, if existent, passes Army Point at a distance of about one-quarter mile from the shore line. Whatever displacement has occurred has been small and it was felt that the site selected for the bridge, across the lower end of Suisun Bay from Suisun Point to Army Point (Fig. 1), was a safe one.

In order to determine the depth and character of underlying rock and to preclude any possibility of founding the piers on the Martinez or any other fault line, a series of borings was made across the proposed bridge site. These borings showed a maximum depth of water of 55 feet, mud to a depth of about 90 feet below low water, and rock at a maximum depth of 143 feet and average depth of 116 feet below low water. The material encountered between mud and rock was, in descending order, sand or clay and firm gravel. Decision to rest the piers on rock was prompted by the extreme depth of mud and the necessity of providing for earthquake effects.

The superstructure of the bridge (Fig. 2) is to consist of 560 feet of viaduct approach at the south end, followed in order by one 264 foot deck Warren truss span, one 526 foot through Warren truss span, one 328 foot through vertical lift span, six 526 foot through Warren truss spans, one 504 foot deck Warren truss span and, finally, 220 foot of viaduct approach at the north end. Total distance from abutment to abutment



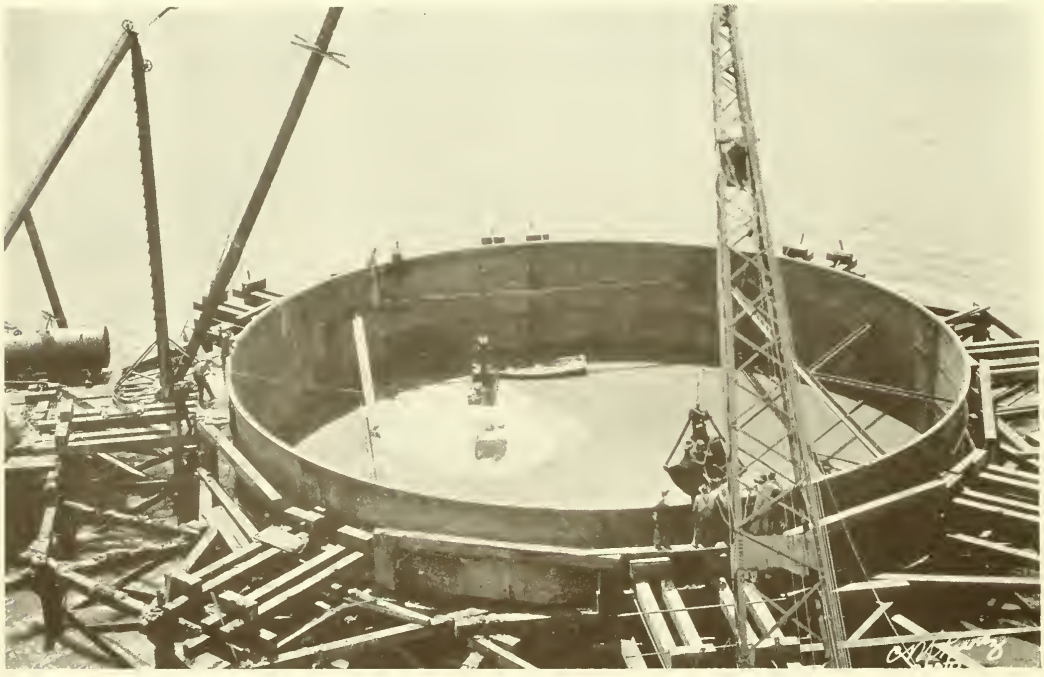
SKETCH OF SOUTHERN PACIFIC SUISUN BAY BRIDGE, NEAR BENICIA, CALIFORNIA

will be 5603.5 feet, consisting of 5195.2 feet of tangent track with a 4-degree curve at each end. Grade will be level. Clearance above mean higher high water will be 70 feet for the fixed spans and 135 feet for the lift span when raised.

In addition at south and north ends of the bridge, the substructure is to consist of 16 pedestal piers for viaduct approach at the south end, followed by two piers (Nos. 10 and 11) constructed in open cofferdam and eight piers (Nos. 12 to 19, inclusive) constructed by a combination of the open dredging and open cofferdam methods. One pier (No. 20) and six pedestal piers for viaduct approach at the north end, all constructed in excavation, complete the substructure of the bridge proper. The deepest pier (No. 13) will be approximately 214 feet high from bed rock to bridge seat.

It is estimated that 22,000 tons of steel will be required for the superstructure, of which 12,500 tons will be silicon steel and 2,750 tons heat treated eyebears. A total of about 105,000 cubic yards of concrete and 1,500 tons of reinforcing steel will be used in the piers. Pier 13 will contain about 13,500 cubic yards of concrete and 175 tons of reinforcing steel.

To date, the south abutment, the south pedestal piers and Piers 10 and 11 have been completed. Piers 12 to 16, inclusive, are in various stages of completion, Pier 12 having been sunk to bed rock. At this writing, the pedestal piers at the north end are in course of construction and work is soon to start on the remaining piers.



DREDGING INSIDE OF STEEL SHELL, PIER NO. 12, SUISUN BAY BRIDGE

The bases of Piers 10 to 19, inclusive, are to be 38 feet by 60 feet in plan, except that the lift span piers (Nos. 12 and 13) will be 40 feet instead of 38 feet wide. The sides will rise vertically to elevation minus 20 at which height the smaller pier shaft will be started. As stated above, Piers 10 and 11, were constructed entirely in open cofferdam, while Piers 12 to 19, inclusive, will be constructed by open dredging up to elevation minus 20 and by the open coffer-

dam method above that height. The abrupt change in section at the beginning of the pier shaft was unavoidable in view of the method employed in sinking the deeper pier bases, it being essential that the dredging wells have vertical faces in order that free passage be provided for the dredging buckets while removing material from beneath the piers.

Study of the earthquake history in the vicinity of Martinez indicates that it is reasonable to expect shocks during the life of the bridge, although it has not been possible to obtain exact data as to the forces which will have to be resisted. Ordinarily, pier bases of the size being used for the Suisun Bay bridge would require no steel reinforcement, but in order to provide for earthquake effects it was decided to use not less than 30 pounds of reinforcing steel per cubic yard of concrete in the footings of these piers. Shafts will likewise be heavily reinforced. Vertical and horizontal reinforcement is being placed around the edges of the bases, dredging wells (Piers 12 to 19) and shafts of the piers. At elevation minus 20, where the abrupt change in section occurs, the steel will be extended from the pier base into the shaft above. Reinforcement consists of $\frac{3}{4}$-inch and 1-inch square and round deformed bars embedded to a depth of 8 inches at edge of pier bases and dredging wells and to a depth of 24 inches at edge of pier shafts.

FORMS FOR CAISSON, SUISUN BAY BRIDGE, NEAR BENICIA, CALIFORNIA

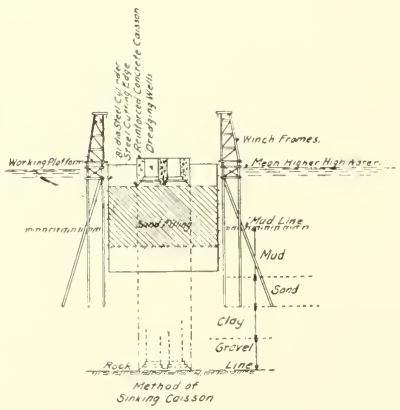
Construction of Pier 11 is of particular interest because of the depth of the cofferdam, consisting of but a single wall of sheet piling. First, falsework piling was driven to rock in the form of a rectangle around the pier site, using second-hand Douglas fir timber painted with Columbia pile preservative. Vertical piles were 65 feet long and spaced about 8 feet, 6 inches on centers across the current and 14 feet, 6 inches on centers in the direction of the current. Brace piles 70 feet long were driven to a 4 in 12 batter against the vertical piles, using two braces at corner piles and one brace at in-

termediate piles. The falsework was completed by bolting two sets of 12 inch by 12 inch wales to the piles, the first set being placed near the tops and the second set as far down as low tide permitted.

Bethlehem deep arch steel sheet piling 65 feet long, was then placed inside of the waling timbers and permitted to sink of its own weight into the mud. Before closure could be effected it was found necessary to provide a wedge-shaped pile, due to the fact that the first piles placed had canted somewhat at the top and it was not possible to bring them to a vertical position. Two piles were cut and their webs riveted together so that a pile wider at the bottom than at the top was formed. The wedge pile was placed in position and the remaining vertical closure pile driven, after which all sheet piling was driven to rock, forming an enclosure approximately 46 feet wide and 70 feet long. Sheet piling was then bolted back to outside walings and open excavation was made, almost to rock, by dredging through the water with clamshell buckets.

The next step was the construction of the interior bracing (Fig. 3), wales consisting of 12 inch by 24 inch timbers in combination with 12 inch by 12 inch timbers for the lower waling sets and 10 inch by 12 inch timbers for the upper sets. This was supplemented with 12 inch by 12 inch and 10 inch by 12 inch struts, 12 inch by 12 inch posts, 3 inch by 10 inch cross bracing and 10 inch by 14 inch corner braces, all timbers being well bolted together in eight

FIG. 3—INTERIOR BRACING AND STRUTTING



METHOD OF SINKING CAISSON, SUISUN BAY BRIDGE

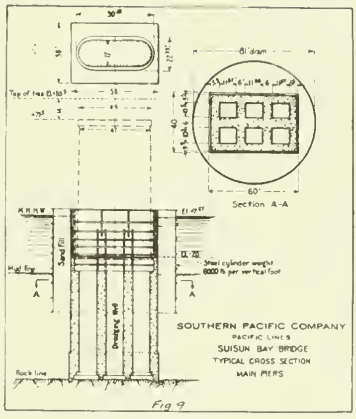
tiers which varied in height from 5 feet at the botton to 12 feet at the top.

In order to facilitate forcing of wales down to position, a slight clearance was left between the outside faces of wales and the inside face of the sheet piling. Wooden wedges were driven into this space after the wales had been placed in the right position.

Struts were used in pairs, two pairs per set of wales being placed parallel with the long axis of the cofferdam and four pairs per set of wales parallel with the short axis. All struts were continuous, the longer ones being 66 feet, 6 inches, in length and laid directly on the shorter struts which were 42 feet, 6 inches long. Steel bearing plates, ½-inch thick, were used between the ends of the struts and the wales.

Vertical posts were placed at the intersections of the two systems of struts and acted as spacers between each pair. It was decided to make the posts continuous only above the third tier in order that the lower waling sets and struts might be jacked down if necessary to take care of any great differences that might be found in elevation of rock at corners of cofferdam. It developed later, however, that the jacking was not required.

The timber cage formed by the interior bracing floated of its own buoyancy and no effort was made to sink it until all framing was completed.



TYPICAL CROSS SECTIONS, MAIN PIERS, SUISUN BAY BRIDGE

Mud was then jetted out from under the bottom wales, using, at first, a 2½ inch pipe tapered to a 1½ inch nozzle, average pressure at pump being 125 pounds per square inch. A diver was lowered to inspect the work but reported that this jet was not very effective. The nozzle was then plugged and eight 7/16 inch holes were drilled in the pipe, resulting in more satisfactory jetting.

When all material had been excavated and interior timbering rested on rock, the sheet piling was driven ½ to 3½ feet into rock. Lugs were bolted to the tops of some of the steel piles and short posts were inserted between these lugs and the top wales to hold down the timber cage. One hundred tons of rail were then unloaded and unwatering of the cofferdam started.

With four 8 inch centrifugal pumps working it was difficult at first to lower the water more than 2 feet in four hours, but better progress was made as the head on the cofferdam increased. Leached copper ore was deposited in the water outside of the cofferdam and was sucked in through the interlocks, proving very effective in stopping leaks.

Two days after pumping started, water blew in under the sleet piling at the closure point on the south side, filling the cofferdam in about 8 minutes, there having been a head of 19 feet at the time. Failure was due to the fact that the piles on either side of the closure pile were offset at the bottom and, consequently, farther apart at that point than at the top, resulting in cracking of the interlocks when closure was made.

To correct this leak, the sheet piling on the south and east sides of the cofferdam was driven deeper into rock, an average penetration of 1½ feet being obtained. The outside of the cofferdam at the point of the break was backfilled with gravel (in sacks) and mud, and pumping resumed. Water was lowered in easy stages by day and held constant at night, placing two of the 8 inch centrifugal pumps at the second and third wales to take care of the lower water.

When water level reached elevation minus 20, use of the 8 inch pumps was discontinued and four 5 inch pulsometer pumps were installed, leakage being easily handled by one of these pumps. At the completion of the unwatering process, mud remaining in the bottom of the cofferdam was removed by dredging and by sluicing into the pumps.

The rock surface was composed of shale, sandy shale and sandstone, the sandy shale predominating and being interspersed by ridges of sandstone which formed decided steps in the foundation. It was necessary to step the shale at several places in order to break any decided slopes. The rock sloped from an elevation of minus 46.4 at the southwest corner to an elevation of minus 50.7 at the northwest corner and was, in general, of excellent character, presenting all necessary requirements (Fig. 4).

FIG. 4—BED ROCK IN COFFER DAM

Before pouring of concrete commenced, the remaining 168 tons of scrap rail were unloaded. The foundation was carefully cleaned and, after erecting footing forms against the inside of the cofferdam wales, the surface of the rock was covered with 2 inches of grout.

Concrete mixing equipment and material were floated to the site on barges, fresh water being supplied through a submerged pipe line. Wet concrete was hoisted and poured through chutes into the forms. Reinforcing steel was placed in position and care taken to deposit all concrete in the dry, excess water being forced to the low corner and out of the forms.

The first 6 feet of footing was poured to the forms created against the waling but above that height the base was stepped back to the established dimensions, 38 feet by 60 feet.

The four lower sets of struts were left in the completed footing as they were well below the mud line and would have been difficult to remove. All timber above was taken out as the concrete was poured, struts being boxed out to form large keys at each construction joint. Wales were braced to the concrete before struts were removed. All concrete surfaces were cleaned and washed and construction joints covered with 2 inches of grout before pouring the next lift.

At elevation minus 20, construction of the pier shaft was started, using steel panel forms on the north and south sides of the shaft and wooden forms on the semicircular ends. The shaft was battered 1 in 24 on the sides and 1 in 48 at the ends.

Between elevations minus 8.0 and plus 8.0 the pier shaft was painted with two coats of "Inertol," after which the gate pile was pulled and the cofferdam filled with water. Pulling of sheet piling began immediately and was accomplished without difficulty, although most of the piles showed a decided bend in the lower 10 feet. This deformation at the ends of the piles was due to the fact that when driven the sheet piling was not exactly vertical but had an outward inclintion from top to bottom. When the cofferdam was unwatered, hydrostatic pressure on the outside forced the lower portions inward. As the piles were embedded in rock, they could not be forced in at the toe, resulting in the bending described above.

The average penetration in rock was approximately 2½ feet. This piling was used again in the construction of Pier 10.

Pouring of the coping and setting of the anchor bolts completed the construction of the pier. Location of the anchor bolts was checked by triangulation, a comprehensive system having been established as a preliminary step in the work. After stripping the forms, the concrete face on the shaft was given a smooth finish.

When the wooden falsework piling was pulled it was examined for evidence of teredo attack. These piles had been in the water about four months and although 80 per cent of them had been attacked, only 12 per cent showed any appreciable reduction in cross section. A section of the pile showing the most attack was cut 2 feet above the mud line, the diameter at this point being 15 inches. The maximum penetration into the pile was 1½ inches.

The only untreated timber inspected was a 12 inch by 12 inch outer wale placed at lower low water. The bottom of this timber was attacked to a depth of 1¾ inches but the top and sides, which were above water at low tide, were practically untouched.

Piers 12 to 19, inclusive, are being constructed by a method which, to the knowledge of the writer, has never before been employed in deep water work. Briefly, this consists in sinking a steel cylinder, 81 feet in diameter, from an octagonal dock built around the pier site, the cylinder being erected in sections as it is lowered. This steel shell is allowed to sink of its own weight and, when it finally comes to rest, the mud is dredged out from the inside and the shell backfilled with sand nearly to the top. On the sand island thus formed a steel cutting edge is laid and steel forms erected for the construction of a reinforced concrete caisson containing six dredging wells. After the first 25 feet of caisson has been poured, sand is dredged from beneath it through the wells, permitting the caisson to sink. This process is re-

peated, alternately building up the pier and dredging through the wells, until rock is reached, each lift of concrete adding about 10 feet to the height of the pier.

At the level at which the pier shaft starts, an open cofferdam is erected on the top of the pier base and, when completed, dredging is resumed. When founded on rock, dredging wells are sealed and, after water has been pumped out, filled with concrete. The shaft is then constructed in the open cofferdam. After cofferdam has been built the steel shell is unbolted approximately at the mud line and the upper sections used again in the construction of other piers.

The advantages of this method are that all concrete is placed in the dry, no timber is left in the pier, reinforcing steel can be properly set and the work can be carefully inspected at all times, thus insuring the highest grade of reinforced concrete in these piers.

The Suisun Bay Bridge is being built under the direct supervision of the writer and W. H. Kirkbride, Engineer, Maintenance of Way, with the assistance of C. W. Rear, Engineer of Bridges. All field work is in charge of H. I. Benjamin, Assistant Engineer of Bridges. Design of foundation and super-structure is being checked by S. A. Roake, Chief Designer.

Moran & Proctor are consulting engineers for foundation work; Waddell & Hardesty are designing the lift span and towers; Ralph Mojeski was consultant in the preliminary study of the project. Substructure is being constructed by Siems, Helmers & Shaffner, Inc., of St. Paul, under the direction of N. F. Helmers, Vice President; M. F. Clements has been engaged as their consulting engineer.

The ARCHITECT'S VIEWPOINT

- *A Plea for Better Town Planning*
- *Development of Two California Cities Compared*
- *Recent Published Books Indicate a Decided Tendency for Civic Righteousness*

CONTRIBUTING EDITORS
WILLIAM C. HAYS . . *San Francisco*
CARLETON M. WINSLOW . *Los Angeles*
HAROLD W. DOTY . . . *Portland, Ore.*
CHARLES H. ALDEN . . *Seattle, Wash.*

TOWNS and cities of the West Coast are in the making, all of them are in their infancy, and there are probably many that are as yet unborn. Most of them are bound to grow and keep on growing and that is a fact which is hard for most people to realize. For we live in the present and the future is far away. It is difficult to think of our country mouldering into decay and becoming the happy hunting ground of archaeologists of some distant era.

Towns and cities of the past began and grew without self-consciousness and sophistication and, almost without exception, they developed into something lovely and always appropriate to the site. Today cities begin and grow under the same conditions, but without the same results. True they include the mechanical conveniences for comfort which were lacking in the past. Whether or not the ancient population were happy without them does not now matter. They have come to stay and we of the present day cannot get along without them. They are, however, an important and inevitable factor in the planning of modern towns and cities.

To repeat, the towns and cities of today are growing fast and generally without plan and forethought. Many of the larger cities have city planning commissions working hard and bravely in face of political opposition and popular inertia and unintelligence. The achievements of these commissions, though relatively small, keep the members sturdily at their tasks and undoubtedly pave the way to greater and easier success on the part of their successors.

How splendid it would be if these towns and cities of today would only waken to the seriousness of the problems and possibilities that are before them! If they would only realize that the problem of today will be increased tenfold in difficulty if left for a future generation to solve!

* * *

Let us consider the present status of a typical Californian small city. Such a one is Ventura, which, though one of the oldest establishments in California is, as a modern city, still in its infancy. San Buenaventura, to give it its true name, was founded in 1782 and the mission chapel well located on the main street, with its outbuildings, dependencies and gardens, formed the nucleus of the town. Within the memory of man, these extensive secular buildings connected with the mission have disappeared, and except for the new mission buildings which take up a comparatively small area, the old church domain is covered with singularly unattractive buildings of various sorts.

For the most part the city of San Buenaventura was laid out in quadrangular squares with an occasional block left for park purposes. Until about ten years ago, the city was ill paved and uniformly ugly and dull. Since then it has increased rapidly in population and wealth and new residence areas have been laid out over the plains and hills adjoining the old city's confines, the streets on the level land following the same dull right angled system, and the hill streets contoured in much more pleasing fashion. The business section is still practically confined to the main street and to Ojai Boulevard, running at right angles to it, and up the valley of the Ventura River to the North. A number of new buildings of considerable size have been built in this business area,

good in design but having no particular local architectural significance, except for some of the smaller ones which were undoubtedly inspired by what was being done at Santa Barbara following the earthquake of five years ago. An extension of Main Street to the easterly entrance of the city and laid out somewhat at an angle did much to improve traffic conditions and introduce a more pleasing entrance to the business section of the city.

A new boulevard was planned and built starting from the eastern entrance to the city and parallel to the ocean shore line, though some distance away from it, but stopping abruptly upon becoming entangled with railroad tracks after passing part way by the city. One delightful surprise in the development of Ventura, to those who follow its course, was the placing and design of a new church building erected to serve the needs of the community as a "community church." This building, honestly built of permanent materials, was located well up on the hillside and on the axis of the main street approach from the east. Its commanding position gave a much needed focus to the city in general. One wonders if this success was premeditated.

The development of Ventura is therefore a mixture of good and bad, the good work, however, indicating but little concerted action. The city has reached an acute situation where sound, intelligent city planning is needed if it intends to live up to its opportunities. The main artery must be widened. Diagonal thoroughfares should be cut through the city connecting focal points, and civic control of architectural design should be instituted.

Main Street must inevitably be widened if it is to hold its prestige as the main business street of the city, and it can be widened intelligently only by arcading. This method would undoubtedly engender opposition. The feasibility of compulsory arcading, however, with its benefit of widened pavement and minimum loss of usable area to individual owners, to say nothing of resulting charm and beauty to the street itself, is so obvious that general opposition to it would be incomprehensible.

* * *

As to harmonious architectural design for all buildings an intelligent Architectural Board of Control, working with a City Planning Commission, could see to it that all construction was designed in conformity with the city's ideal and in harmony with neighboring buildings. It is now generally accepted throughout the country that municipal art commissions can legally control the design of all public construction, and it is logical that this control be extended to all work *fronting* on public terrain, such as public streets.

Santa Barbara went farther than this and established a Board of Architectural Control which had supervision over everything built in the city and which stood the test of courts and public scrutiny for many years and which was only halted in its functions by petty politics.

Ventura has its great opportunity. It can become an example for right civic development more farreaching than can be prophesied. The first costs would be large but not unbearable and not nearly so serious as the timid taxpayer and selfish property owner would expect. The benefits to the community would be incalculable.

One thing is certain: some city will before long assume the program just sketched and make a world-famous success of it. San Francisco had her opportunity at the time of the earthquake-fire and was too busy with the joy of living to bother with it. San Diego had hers following the Panama-California Exposition and passed it by; Santa Barbara made the most successful experiment of it so far on record, though much to be desired was left undone, or rather undoable; the very new town of San Clemente is trying it out under quasi-public control which shows promise of being successful, and Palos Verdes, under strict private control, is showing a success beyond measure. These last two, however, have in no sense the problem faced by long established communities,

where a great amount of education of the public would have to take place before a deep seated civic conviction could be established.

Future generations will look back and wonder why we had to make a problem of right civic development.

* * *

RECENTLY published books such as *Middletown* by Robert and Henry Lynd, *New Towns for Old* by Dr. John Nolen, Harold Holt's *Building the City of God* indicate the forces which are at work for civic righteousness and the public weal. Hand in hand with civic sociological problems are those of city planning and control of civic architecture. Careful analysis demonstrates their interrelation and interdependence and serious study of a city's needs stimulates civic obligation.

The following lines from Dr. Justin F. Kimball's *Our City Dallas,* a splendid book illustrating civic progress in the Southwest, are not inappropriate to the questions just discussed:

> "My city wants my citizenship, not partisanship; friendliness, not offishness; co-operation, not dissension; sympathy, not criticism; my intelligent support, not indifference. My city supplies me with health, wealth, trade, education, morale, recreation. I should believe in my city and work for it."

CARLETON MONROE WINSLOW, A. I. A.
Los Angeles, California.

EDITORIAL CHAT

A SKYSCRAPER that will more fully justify its claim to title — a one-hundred-story tower, is planned by the Metropolitan Life Insurance Company for erection on an entire block of ground at Fourth Avenue, Twenty-fourth Street and facing Madison Square on its Madison Avenue frontage, New York. The present home of the company occupies the south block on Madison Avenue. Thus when completed the Metropolitan Life Company will have probably the largest home office in the world.

The above is one of the many misleading and erroneous statements that have been published in the daily press and technical magazines, regarding the Metropolitan Company's plans for a new building. It has brought this insurance company a great deal of free advertising but farther than that seems to have failed to accomplish the real purpose of its sponsors—that of presenting to the public a picture of the sort of building our next generation may expect to build. Explaining the published picture of a 100 story building, the company offers the following information:

"Faced with the problem of providing as nearly as possible ideal working conditions not only for its present force of more than 12,000 home office employees, but for as many thousands more as the conduct of its rapidly expanding business may require, the Metropolitan Life Insurance Company, before approving plans for its new building, has been forced to consider possibilities far beyond the present business requirements. Although the immediate project to be undertaken involves only the erection of a building of 32 stories in height, a thorough study of the complete future development of the entire area has been entered into, a study which foreshadows perhaps something of what urban architecture may become under the influence of rising land values and the pressure of economic necessity.

"In view of this purpose, it is not at all surprising that the studies made by the company's architects, Dan Everett Waid and Harvey Wiley Corbett, have departed far from tradition and have resulted in the conception of a building so different in its mass and detail as to be startling even to the ultra-modernist. Such a building might be carried to the height of a hundred stories, an obelisk-like structure of glass and steel set on a pedestal of steel and marble.

"Despite the fact that such a building may *never* be completed, that it exists only in plans and that these plans have not yet been approved in any detail, it is interesting to consider what such a building would be like and some of the problems that its architects have attempted to solve.

"Even the ultimate height of the building is tentative. Considering present land values, it has been demonstrated that in New York City, at least, it is increasingly profitable to build to the height of seventy stories. Beyond that, the law of diminishing returns becomes operative, construction costs rise disproportionately, usable area contracts, vertical transportation service becomes more costly. A depreciation in land values might lower that limit. An appreciation might raise it. Whether this particular building ever rises to a hundred stories, or even seventy, depends on not only these factors but on the question of whether the company's business will eventually reach a point where such an amount of space as one hundred floors offer would be required."

APPRECIATION

MR. F. W. JONES, EDITOR,
THE ARCHITECT AND ENGINEER
Dear Sir:

This office thinks that your presentation of the Northern Life Tower is unusually fine. I want to thank you for the obvious care and attention shown in the handling of the subject manner.

Yours very truly,
A. H. ALBERTSON
Seattle, Wash.

THE UNIT SYSTEM AND ELECTRIC REFRIGERATION

By Henry L. Eckenroth

AS far back as we are able to trace we have been compelled to sell over and over again as new ideas, the same old priciples as we apply them to some newer appliances or installation of equipment.

Many years ago the standard installation for power equipment in factories consisted of one large central plant, steam or electric, from which, through the medium of a maze of overhead shafting, belting, pulleys, reduction pulleys and throwout clutches, this power was transmitted to operate the various lathes, drills, grinders and general shop or factory machinery. Today we have the unit system which is being applied most successfully to refrigeration.

In the unit system dozens or hundreds of small electric motors are used, each of which drive some particular piece of apparatus or a small group of machines, usually these motors being embodied in the design of the machine they operate. This makes first, for a great saving in power as only sufficient power necessary to operate machines required for a short period of time is utilized, especially during extra shifts or night work when some particular types of machines only are needed for the department turning out this extra work.

For example, a factory using one hundred pieces of machinery driven by a hundred horse power central plant, might, to meet a rush on some particular class of work, wish to run extra shifts on ten lathes necessitating the operation of a one hundred horse power plant. With the unit system ten small motors with an *actual consumption* totaling probably five horse power would be used. This is due to the fact that as no power would be lost in transmission, a saving of approximately thirty per cent would be realized, while another saving of twenty per cent would be effected as the machines could be operated intermittently. In addition to the actual saving in power costs, we must add the saving by way of eliminating maintenance and replacement of shafting, pulleys, belts, etc., as these do not work but only transmit power from the power plant to the machines; the maintenance cost on individual units being very much smaller. Therefore, real economy and efficiency results throughout.

The second most important feature of the unit system is the safety factor. With the failure of a central plant an entire institution must lie dormant until necessary repairs are made. This in some cases, particularly in remote locations, has been a matter of days and weeks causing considerable loss of time and money.

This is not possible with a unit system as the failure of one or even two units would not seriously handicap the institution so we find the unit system most dependable and safe.

Next we have the matter of flexibility. Various pieces of machinery with their small self contained power plants may be readily moved about to conform to any changes or additions that may become necessary with the expansion of the business in which they may be involved; additional pieces may be purchased at a comparatively small cost or others readily disposed of as desired.

Last, but not least, the matter of depreciation and salvage must be considered.

Upon the dismantling of the average large central plant little return is realized, approximately seventy per cent being classed as "labor" and material, the labor naturally representing a total loss, and "material" must be removed, worked over or refitted to some other job or usage yielding a very small net return while the power unit when removed, overhauled and reinstalled might net from fifteen to twenty-five per cent of its original cost.

In the case of a unit system under the same conditions a net return of fifty or seventy per cent of the original cost could be secured for the reason that each unit represented a complete machine designed to do a particular class of work and could be readily removed, shipped any distance and reinstalled. We therefore have a real return on money invested.

Almost everywhere we look, particularly in mechanics, we see the unit system adopted. Therefore, we are not greatly surprised to find the mechanical refrigeration fraternity in the throes of "selling," once again the same old accepted principle of the unit system for refrigeration.

Everywhere hotels, restaurants, clubs, large homes

and institutions of every description are recognizing the economies and conveniences of the unit system as applied to refrigeration. This is proving particularly true of hospitals, for here, with human life at stake, the factor of dependability is paramount and the unit system has been accepted as the most practical installation if only for this safety factor. Furthermore, the units, of proper size, are so placed as to make them readily accessible for ice, etc., so that nurses or staff attendants need not walk any great distance to one central and sometimes congested location.

With the usual lapse of time required to recognize the superiority of the same old principle and once again being forced to realize the folly of allowing initial cost to be the deciding factor in selecting any equipment, apartment house owners, operators and builders are using the unit system of refrigeration.

In these enlightened days of safety, comfort and efficiency, employers generally are looking more and more to health and safety of their employees, making working conditions as comfortable and healthful as possible.

Therefore, we now have our rest rooms, lunch rooms, cafeterias, first aid service and every conceivable device to make the office, factory, shop, mine and farm a better, safer, healthier, happier place in which to work.

This was probably most ably presented by the personnel manager of a large corporation with this statement: "We have come to realize that if we give our employees nearly the care and attention we give our automobile they will run faster, easier and better, last longer and give more miles to the dollar."

For some time past the absolute necessity of cool, pure water to invigorate the body and insure a maximum working efficiency was generally recognized, particularly where hot weather prevailed or heavy fast work was required.

In every class of work, shop, factory, office and institutions of every character "bottled water service" using either an earthen container to cool the water or an "iced" container has been inaugurated.

These served fairly well where the high temperatures were not encountered, but at best no uniform temperature could be maintained, so the general results have not been entirely satisfactory.

Here again that great electrical industry, arising to the occasion and meeting a real requirement, has perfected the electric water cooler, which is now available to take its rightful place along the many other electrical appliances that have contributed so much to the comforts and conveniences of the present day.

Gradually the earthen or crock cooler is being replaced by a compact, attractively designed, electrically operated bottle water cooler.

Once again the unit system asserts its general superiority, for in addition to the facts already set forth herein, the saving in piping "ice water" from a central plant to various drinking fountains throughout a building, and the high cost of properly insulating these pipes alone go a great way in reducing the difference in even the initial cost of the two installations.

WEBB MAKES NEW RULING

Architects may enter into partnership with persons other than architects if they comply with stipulations of the new California State law regulating the practice of architecture, passed by the 1929 legislature, it was ruled by U. S. Webb, state attorney general.

The law permits such partnerships providing the name of the architect shall appear as the architect on all instruments of service and that in no case shall the other members of the partnership be designated as architects. These must be designated under their true title.

In many cases an architect associates in business with a construction engineer or a building contractor. The State Board of Architecture insists that in such cases the specific qualifications of each partner be listed clearly for public reference. The attorney general declared that it was illegal for a construction firm to use the name of a deceased architect in the firm name under the impression that his services were still involved.

ARCHITECTURAL DRAWINGS

An exhibit of architectural drawings, sponsored by the Beaux Arts Institution of Design, New York, was recently held in the Architectural Building, University of California, Berkeley. The collection represents work done by students who have won the annual fellowship for foreign study in recent years. The two-year fellowship, providing for study in Paris, was won last year by J. D. Murphy, student at the Massachusetts Institute of Technology.

HIGHWAYS OF STEEL

Highways made of one single strip of steel welded together and extending from coast to coast, are predicted by Bennett Chappel, vice president of the American Rolling Mill Company, who recently addressed the annual convention of the International Acetylene Association.

STEEL WINDOWS FOR ALL TYPES OF BUILDINGS

*by George P. Richardson**

THE growing popularity of steel windows on the Pacific Coast can be attributed to the many improvements that manufacturers have made in them during the last few years. While the steel casement has an architectural precedent dating back many hundreds of years, it has not been used extensively by architects in the United States until the last decade, for it was not until then that casements were perfected to a degree that would meet the demands of comfort and utility in the modern home.

With the growing volume of steel windows used, engineers have perfected many refinements. Not only have the windows been made weathertight, without the need for weatherstrips, easy to wash, easy to install, and easy to screen, but great strides have been made in making a window that can be easily adapted to architects' individual designs.

Types and sizes of windows have been standardized, yet in such a way that the architect has been given wide latitude in design. Wide windows for an English manor, tall narrow windows for a Norman tower, broad low windows for a Spanish Mission type of house, or semi-circular headed windows for a studio living room, all can be designed in wide variety from 50 types and sizes of standard casements.

HOUSE OF H. G. MEAD, BERKELEY
Gwynn Officer, Architect

An excellent example of a house based on English precedent is the Dr. W. C. S. Koebig residence at Los Angeles, designed by H. Roy Kelley, and which won the first prize in the 1928 House Beautiful Small Home competition. Standard Fenestra casements combined with heavy mullions, were installed in this house, making the windows economical yet architecturally correct.

The 1927 winner of the House Beautiful competition, the F. G. Meade residence at Berkeley, designed by Gwynn Officer, is the Spanish type with broad, low casements, some of them shuttered.

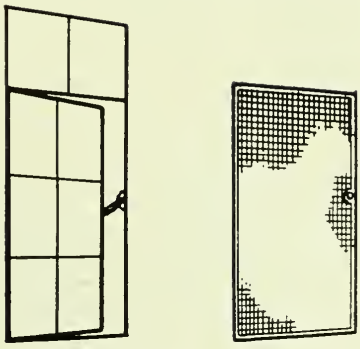
In the well-known Villa Riveria Apartments at Long Beach, California, designed by Richard D. King, Fenestra casements were used. At Mr. King's request the vertical muntins were omitted from the casements which gave a very pleasing effect. This magnificent apartment is one of the finest on the Pacific Coast, and the casement windows help materially in carrying out the design.

Of all the improvements made recently in steel casements the most notable is probably the Fenestra "Fenwrought" casement, (Screened), introduced last year by the Detroit Steel Products Company. The Fenwrought is a Fenestra open-out casement

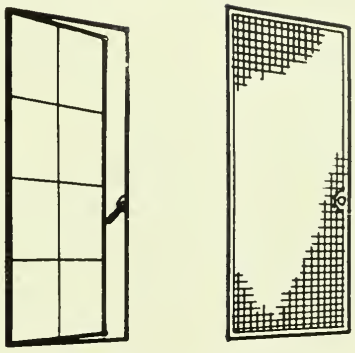
*Mr. Richardson is manager of the Pacific Coast office, Detroit Steel Products Company.

CASA RIVIERA APARTMENTS, LONG BEACH, CALIFORNIA

RICHARD D. KING, ARCHITECT



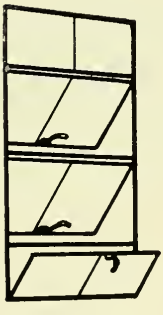
The Fenwrought (screened)



The Fencraft (screened)

The Fenbuilt (unscreened)

The Fenform (combination unit)



The Fenseal

The Fenmark

TYPES AND DESIGNATION OF FENESTRA STEEL WINDOWS

THE HOUSE OF DR. WALTER C. S. KOEBIG, PASADENA

H. Roy Kelley, Architect

equipped with an all-metal inside screen which fits flat against the steel window with a metal to metal contact. The hardware of the window is designed to permit the operation of the window through the screen without touching it. The screen is removed only when washing the window, and then it is easily done by simply releasing two spring clips at the top.

In the "Fencraft" casement this improved method of screening is offered for the first time in a heavier weight window. It is a quality steel casement which sets new standards of refinement for windows in this class.

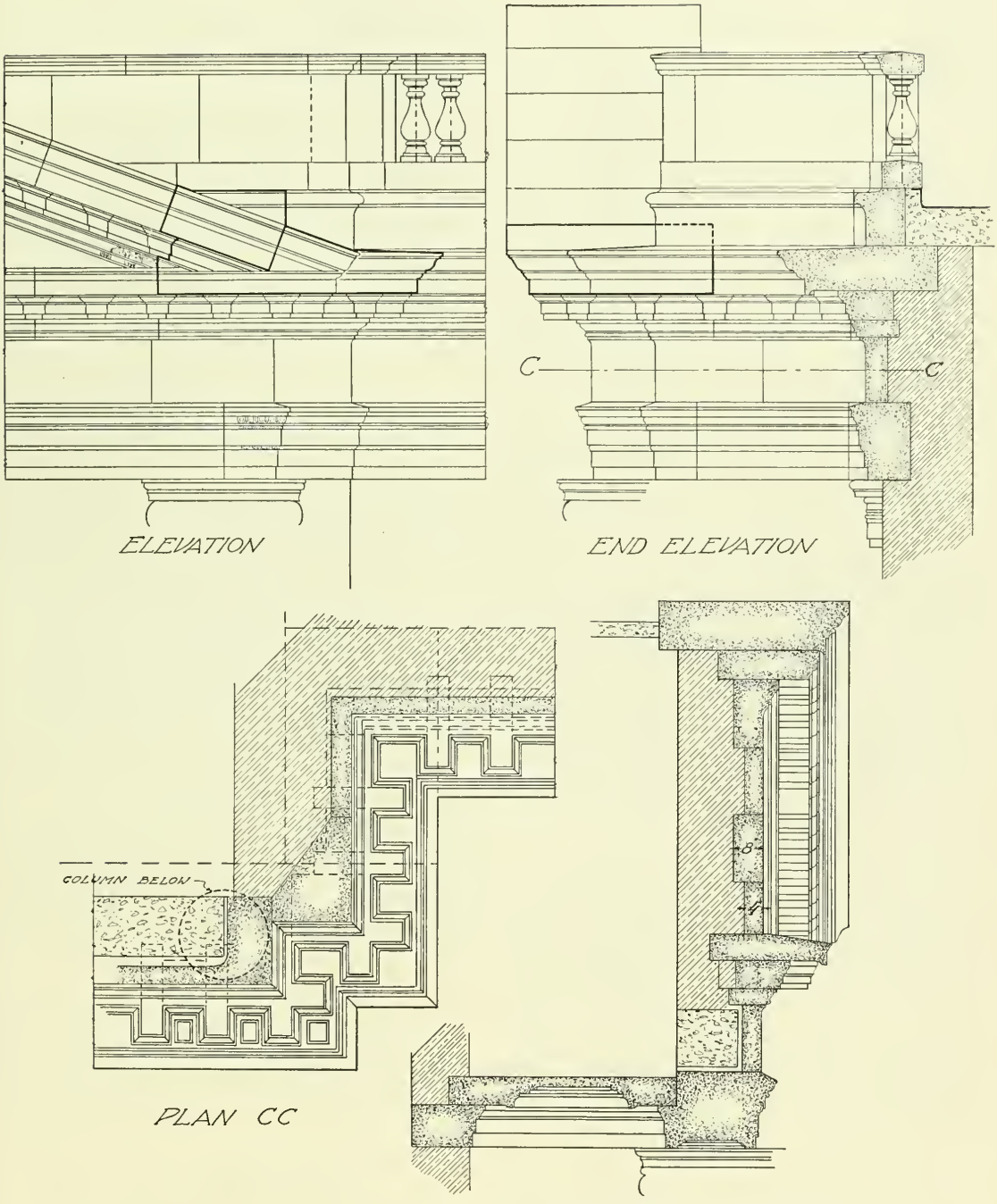
Not only do these windows give the advantages of Fenestra screening but, also they include several combination units, in which two swing leaves are used in a single unit, thus eliminating one mullion and simplifying the screening. Bronze operating hardware will be standard on these windows and bronze bushings will be used in the hinges to insure easy operation for the life of the building.

The Fenestra "Fenmark" window is another new window just announced by the Detroit company. This is designed for use in office buildings, schools, clubs, theatres, banks, etc. At the sill is an open-in projected ventilator which acts as a windguard and allows accurate control of ventilation in all kinds of weather. The upper portion of the window is composed of an open-out casement of medium weight sections, similar to the new Fencraft window. In some types where additional height is desired, a fixed transom will be used at the head.

Solid bronze handles will be standard. No operating hardware will be necessary as adjustable friction butts are used. The predominate line of the window is the vertical meeting rail of the casement which will conform to the prominent vertical lines popular in the new office buildings.

PRESERVE FEDERAL BUILDING

A telegram was submitted to the national body of the A. I. A. recently from the president of the Oregon Chapter, Jamieson Parker, asking the aid of the Institute in bringing about the preservation of the old Federal building in Portland, Oregon. It is the desire of the board to render all possible assistance to the Oregon Chapter in saving this building from destruction.



Courtesy Vermont Marble Company

DETAILS OF MARBLE CORNICE IN ARLINGTON MEMORIAL AMPHITHEATER

CARRERE AND HASTINGS, ARCHITECTS

WITH *the* ARCHITECTS

EDUCATIONAL BUILDINGS

In the office of W. H. Ratcliff, Jr., Berkeley architect, preliminary plans are being prepared for the following group of academic buildings for Mills College, Oakland:

1. Two story reinforced concrete administration building.
2. Library building.
3. Academic building, faculty office and classrooms.
4. Two story reinforced concrete science building.
5. Two additional units to Art building.
6. Two story reinforced concrete infirmary.
7. A residence hall.
8. One story reinforced concrete corporation yards.

The cost of this program is estimated at $2,000,000 for which a building fund campaign is about to be launched.

APARTMENTS FOR SAN RAFAEL

S. Heiman, architect of San Francisco, has been doing considerable work in San Rafael, California, of late. Two commissions are a large apartment building and a new store for the Woolworth Company.

The firm of Carl Werner and S. Heiman has completed plans for a Scottish Rite temple in Reno, Nevada, which will be one of the outstanding pieces of architecture in Nevada when completed. The new temple will cost $500,000, the first unit to be completed at a cost of $150,000.

PROFESSOR HOWARD SPEAKS

John Galen Howard, a member of the faculty of the University of California, and the author of considerable poetry, was honor guest and speaker at the regular book review meeting of Berkeley Women's City Club, Friday afternoon, January 24, at the Town and Gown clubhouse. Professor Howard reviewed his latest poem. "Phidias," a book-length narrative dealing with the famous Greek sculptor and his times.

18 STORY PORTLAND BUILDING

Meyer-Frank Company will erect an eighteen story steel frame addition to their Portland department store from plans by De Young, Moskowitz & Rosenberg of Portland, Oregon. T. Ronneberg of San Francisco is the structural engineer. The building will cost in excess of $1,000,000.

BURLINGAME RESIDENCE WORK

The George W. Williams Company, 1404 Broadway, Burlingame, will build a two story English type residence on Woodstock Avenue, Hillsborough, from plans by Messrs. Grimes and Schoening. The Williams Company will also build a $10,000 home on Hale Drive, Burlingame, and a reinforced concrete garage for G. Adolphson, from plans by Russell B. Coleman.

NEW COUNTRY CLUB

The Union League Club of San Francisco plans the erection of a country club on their property at Millbrae, San Mateo County, and the office of Willis Polk & Company, architects, has been commissioned to prepare plans. This club building will cost in the neighborhood of $65,000 and will be in the Spanish style.

SCHOOL AND GYMNASIUM

N. W. Sexton, architect, with offices in the de Young Building, San Francisco, has completed plans and contracts have been let for a new school and a gymnasium for the San Rafael High School District. The general contract has been let to Young and Horstmeyer of San Francisco.

TWO NEW SCHOOLS

W. H. Weeks' office in San Francisco, announces the completion of plans for two new grammar schools in the state, one at San Jose and the other at Red Bluff. The San Jose school will cost $71,191 exclusive of heating, and the Red Bluff school, heating excepted, $76,318.

ARCHITECTS BUSY

Irvine and Ebbetts, of San Francisco, whose work has been almost exclusively the designing of apartment buildings, are at present engaged on plans for three new buildings to contain from ten to twelve three room apartments at a cost ranging from $45,000 to $60,000.

HALE BROS. STORE BUILDING

Retaining their own designers, Hale Brothers' Stores, Inc., are planning on the complete alteration to their property in Mission street, San Francisco, which is leased to the Oregon City Woolen Mills.

SOUTHERN PACIFIC HOSPITAL

Plans have been completed by Alfred I. Coffey and Martin J. Rist, Phelan Building, San Francisco, for a six story and basement Class A addition to the Southern Pacific hospital at Fell and Baker Streets, San Francisco. Contract for the work has been awarded to Barrett and Hilp for $450,000 plus a fee.

STORE AND OFFICE BUILDING

Meyer & Holler, Wright & Callender Building, Los Angeles, are preparing plans for a twelve story Class A store, office and loft building at 629 South Hill street, Los Angeles, for the Sun Realty & Finance Corporation. The investment will represent an expenditure of $750,000.

CLAUSEN & AMANDES BUSY

New work in the offices of Clausen and Amandes, architects in the Hearst building, San Francisco, includes extensive alterations to the Broadway theater, Oakland, and a three story studio apartment building at Kearny and Chestnut Streets, San Francisco, for Mrs. Carolyn Mayes.

OAKLAND THEATER

G. A. Lansburgh, architect of San Francisco, has recently returned from New York where he was commissioned by Warner Brothers to prepare plans for a $1,000,000 Class A store and theater at Broadway, Franklin and 20th streets, Oakland. The auditorium will have a seating capacity of 3500.

OAKLAND APARTMENTS

Chester H. Treichel, architect in the American Bank Building, Oakland, has prepared plans for an $80,000 three story apartment building with fireproof garage to be built on Merritt Avenue in the Lake district, Oakland.

BANK OF ITALY STORES

The office of H. A. Minton, architect of San Francisco, has plans for store buildings for the Bank of Italy in Southern California at Long Beach and Santa Monica, as well as a dormitory for the University of Santa Clara.

NEW BANK BUILDINGS

The office of A. F. Roller, First National Bank Building, San Francisco, has finished working drawings for two new bank buildings for The Pacific States Savings and Loan Association. One building is in San Francisco and the other is in Oakland.

PERSONALS

John C. Austin, elected president of the Los Angeles Chamber of Commerce for 1930, is the first architect to receive that honor. He was the architect of the present Chamber of Commerce Building.

Wilhelm Adrian, C. E., for a number of years associated with Pierre Zucco, C. E., with offices in the Whittell Building, San Francisco, has opened an office at 417 Market Street for the practice of his profession.

Willis Polk & Company announce the withdrawal of James R. Mitchell as a member of the firm, which hereafter will be composed of Angus McSweeney, architect, and Austin Moore, manager. Mr. Mitchell will continue to practice architecture under his own name.

Edwin Bergstrom, architect of Los Angeles, says that architects in the United States are receiving fees of not less than $80,000,000 a year.

J. J. Jessup of San Francisco, has been appointed city engineer of Los Angeles to succeed Maj. John C. Shaw, who filled that post for the last four years.

James S. Dean, of Dean and Dean, architects of Sacramento, has been appointed city manager of Sacramento at a salary of $10,000 a year.

RECEIVING HOME

Whitehouse & Price are architects for a new receiving home for the Spokane branch of the Washington Children's Home Society. The building is planned for two stories, and will be constructed of brick and concrete, with modern equipment.

ARCHITECTS STAFF DINED

The staff of John Graham, architect, of Seattle, was entertained at a dinner at Blanc's December 20. About thirty were present, and a most enjoyable evening was spent with Mr. Graham, who was assisted by Francis W. Grant as master of ceremonies.

ELECTED PRESIDENT

Andrew L. Mercer, of Gardiner & Mercer, architects, was chosen president of the Architectural Institute of British Columbia at the annual meeting in the Hotel Georgia, Vancouver. P. Leonard James is the new vice-president.

NEWSPAPER PLANT

The Scripps-Howard Press of New York has commissioned Messrs. Howell and Thomas of Cleveland, Ohio, to prepare plans for a $1,000,000 newspaper plant to house the San Francisco *Daily News*.

ARCHITECTS APPEAL COURT DECISION REGARDING PAYMENT OF PLANS

TWO rulings of interest to architects were made recently by Superior Judge Leon R. Yankwich of the Los Angeles county courts, in the case of Norman F. Marsh and De Wight I. Kindig against the Calvary Presbyterian Church of Wilmington.

Marsh and Kindig sued the building committee of the church for $3065.95 alleged to be due on account of architectural services rendered on the new Presbyterian Church at Wilmington, which is now in process of construction. The church committee, in a rather novel answer, without admitting or denying liability, stated that the architects had been paid $2500 and asked that the court grant the plaintiff such relief "as shall seem meet and equitable to the court."

The church did not put on any testimony, but contented itself with the wording of the contract itself. The two architects told the usual story of church building financing: At first a sketch was made which contemplated a very pretentious church. Unable to raise the necessary funds, these sketches were abandoned. New sketches and plans were made which embodied the use of the old church edifice. That edifice burned down. Then the second sketch had to be abandoned. Final plans were drawn which were accepted and on which contracts were awarded in the sum of $62,644.51. Alternate bids were also received (which were not accepted) calling for additional work which would have brought the cost up to $81,649.

Work was begun on the church according to the contracts. The building committee paid the architects $2500 on account. Then a dispute arose and the architects brought suit.

Two contentions were made by them: The first was that they were entitled to the reasonable value of the work done on the sketches which were not used. "The agreement contemplated that these sketches should not be paid for separately, but should be part of the compensation on the completed plans," said Judge Yankwich in ruling against the contention of the architects that they were entitled to $3000 for this work.

The architects also contended that their percentage should be based on the church as contemplated, not on the church as built. But Judge Yankwich ruled that the contracts actually awarded are the basis of the compensation.

"As, if and when," said Judge Yankwich, "the additional work is done, and the architect's supervision on such work completed, he will be entitled to additional compensation."

Norice of appeal from the decision of Judge Yankwich has been given by Clay & Handy, attorneys for the architects, and the case will go to the appellate court. The foregoing statement of the case is given from the viewpoint of the court. According to Thomas L. Clay, one of the attorneys, the evidence showed "that plaintiffs completed plans for a church building, under the instructions of defendants, which plans incorporated existing buildings, which plans were approved and accepted by defendants at a cost of $2000 to plaintiffs. After the above had taken place, the buildings burned, making the plans of no value. Defendants then instructed plaintiffs to make new plans for a church which should cost in the neighborhood of $85,000, which plaintiffs did. The defendants used the said plans and erected a building according to them with the exception that a wing was left from the building, making the cost of erection some $20,000 less than would have been the cost had the building been built as per the plans drawn and accepted.

"Plaintiffs' contention is that they should be paid the reasonable value of the plans that could not be used because of the fire, and that the fee to be paid them for the plans used should be based upon the cost of a building erected according to them and that the fee should not be based upon the cost of erection of a portion thereof."

As the architects interpret the ruling of the court, it will, if affirmed, establish a precedent of great concern to the architectural profession. It would permit an owner, after having plans prepared for a building, to put in a foundation, defer the project indefinitely and pay off the architect on the basis of the cost of the foundation. This would leave the architect holding the bag for the major expense of the work until such time as it might suit the owner's convenience to go ahead with the project.

ARCHITECT WINS FEE

"If the lowest bid is not accepted because it exceeds the amount which the owner proposed to spend and the house is not built, the architect is not entitled to the agreed percentage on such a bid.

"However, the architect is entitled, notwithstanding the abandonment of the project, to the agreed per-

centage on the maximum cost which the owner intended to spend and within the limits of which he wanted the architect to keep."

This is the gist of a recent decision by Judge Leon R. Yankwich of the superior court of Los Angeles county, in awarding a judgment of $1300 to Marbury Somervell of the architectural firm of Somervell & Putnam against E. B. Rivers, produce merchant, for balance of fee claimed for preparation of residence plans. Rivers contested the suit, claiming he had already paid the architect $2000 for plans which he could not use because the lowest bid exceeded the maximum amount he desired to spend by $12,500 and the residence had not been built.

COMPETITIONS

WINNERS OF HOUSE COMPETITION

Los Angeles architects were prize winners in the small homes competition recently conducted by the Midwest chapters of the American Institute of Architects and sponsored by the Monolith Portland Midwest Company. Fifty-one of the 337 designs submitted in the competition were shown in the exhibit room of the Architects' Building, Fifth and Figueroa streets, Los Angeles.

Designs were submitted from nearly every state in the Union and from many foreign countries, including England, Canada, Cuba, Porto Rico and Mexico. While rules for the contest called for a home for a family of moderate means suitable for use in the Midwest sections and not more than six main rooms, 106 of the plans submitted were from California. It is interesting also that three Los Angeles architects won first, second and third places.

The winners are Walter L. Moody, H. Roy Kelley and Arthur R. Hutchason, who were awarded first, second and third honors, respectively. Among those honorably mentioned for their designs are Edward W. Kress and Harold H. Weeks, San Francisco; Normal L. Low, Rivera; Florence Wright, Santa Monica; J. Robert Harris, Hollywood, and Yandell W. Nibecker, Los Angeles.

The winner of first prize will receive a three months trip abroad, first class, with all expenses paid and $500 in cash for incidentals; the second prize is a two months' trip abroad on a regular tour or cruise with all expenses piad and $300 in cash for incidentals; third honors call for a three weeks' trip anywhere in the United States with all expenses paid and $150 in cash for incidentals. Those receiving honorable mention will be given $50 in cash each and copies of Richard S. Requa's book, "Old World Inspiration for American Architecture." Mr. Requa was the architectural advisor for the contest.

AMERICAN ACADEMY IN ROME

The American Academy in Rome has announced its annual competitions for fellowships in architecture, landscape architecture, painting, sculpture and musical composition.

The competitions are open to unmarried men not over 30 years of age who are citizens of the United States. The stipend of each fellowship is $1,500 a year with an allowance of $500 for transportation to and from Rome and $150 to $300 for materials and incidental expenses. Residence and studio are provided at the Academy, and the total estimated value of each fellowship is about $2,500 a year for three years, with opportunity for extensive travel.

The Grand Central Art Galleries of New York will present free membership in the Galleries to the painter and sculptor who win the Rome prize and fulfill the obligations of the fellowship.

Entries for competitions will be received until March 1. Circular of information and application blanks may be obtained by addressing Roscoe Guernsey, executive secretary, American Academy in Rome, 101 Park Avenue, New York, N. Y.

JAMES HARRISON FELLOWSHIP

The Governing Committee of the James Harrison Steedman Memorial Fellowship in Architecture announces the fifth competition for this Fellowship, to be held in the spring of the year 1930.

This fellowship is founded in memory of James Harrison Steedman, M. E., Washington University —1889, First Lieutenant U. S. Naval Reserves, Assistant Engineer Officer U. S. S. Oklahoma in 1917 and 1918, who at the age of fifty, suffering from a malady curable only by rest, refused to quit his post and knowingly made the great sacrifice.

SCULPTURE IN SOAP

The sixth annual competition for prizes offered by the Procter and Gamble Company for small sculptures, using white soap as a medium, is announced by the National Soap Sculpture Committee, 80 East 11th Street, New York. The competition closes May 1. For amateurs ninety-six prizes totaling $1,850 will be awarded.

PACIFIC COAST AND SOUTHWESTERN BUILDING FORECAST

THE optimistic forecasts of activity in the building field which have been made for and by President Hoover are entirely supported by the 1930 Building Forecast recently made public by a group of leading building publications. In building activity it is apparent that an expenditure of at least seven billion dollars will be reached and with the addition of engineering projects and public works, the total may run to over nine billion dollars.

In considering the possible building program of 1930 we must emphasize the immeasurable factor which has been introduced suddenly into the picture. This is the great construction program fostered by the government and supported in theory at least by states and municipalities. President Hoover turned in a very natural manner to the construction industry as a means of stabilizing the business welfare of the American public. There exists today a tremendous demand for public buildings, and civic improvements. There is great pressure being exerted for public utilities, for increased facilities and service. There is great need for better roads, bridges, transportation facilities and various other types of engineering projects which come within the scope and control of national, state and city officials. So definitely has this program been presented and so enthusiastically has it been supported that it cannot help but contribute a great volume of building activity to the totals of 1930.

Summing up the general situation, therefore, and considering the figures of the Pacific Coast Building Forecast as presented herewith, we find the following significant facts for consideration:

1. The general demand for new building construction is approximately the same as it was at the beginning of 1929.

2. The trend toward a far greater supply of mortgage money is very definite.

3. The deliberate program of construction which is being started by the government, by states and by municipalities, will evidently assume very large proportions.

This combination of factors would seem to provide reasons for optimism regarding the building activities of 1930. It would seem that we can assume at least as much building construction during this new year as we had in 1929 and probably more. In fact if mortgage money becomes really much easier and if the great schedules of public improvements are carried out, it would seem to be quite within reason that 1930 might exceed all building construction years.

It is true that never before has the human element entered so strongly into the picture of the building industry. Who can foretell mass psychology? We believe that everyone senses a returning spirit of confidence based on hard work and intelligent planning. The signs of the times are pointing favorably. Even in the self-sustaining statements of captains of industry there is to be found an intelligent realization of the great things which can be accomplished by the American public when it really goes to work—and it has gone to work.

For the American public to work it requires tools and the greatest tools of industrial and commercial activity are the buildings which house the multi-fed operations involved.

Before turning to an analysis of the change in public demand for buildings of various types we cannot well leave the stage of prophecy without commenting on the existing trends which are under way in the field represented by the designing of buildings and the materials and equipment which are required.

In the first place, the influence of mortgage loaning interests on plans and specifications has never represented such significant control as it is now assuming. The very scarcity of mortgage money assumes that the collateral on which it is placed must be most carefully scrutinized. There is coming a far greater volume of mortgage money financed through bond issues and certificates issued by large loaning companies. This is a more flexible type of mortgage investment from the point of view of the individual investor and as it is handled through large central organizations it is obvious that the facilities for provision of plans and specifications will be greatly improved. It is quite apparent that as mortgage money mounts again in volume it will be more scientifically handled and the natural result will be better quantity in design and in the types of materials and equipment selected. We are to have better buildings regardless of type. First, because of a more intelligent demand on the part of the public and second, because of the more scrutinized control of mortgage money.

This is a significant condition for architects because it means a constantly increasing demand for the better type of architectural service. An investing public is learning more of the value of good architecture because the architectural profession is learning to render a more valuable service. The economic condition of the architectural profession is strengthening

constantly as architects assume a broader relationship with building projects and with the economic structure which casts its shadowy lines over the drafting board. More and more in successful building projects of all types of architect, the engineer and the contractor are finding the recognition which always develops for practical contributions. Withal there is no decline in the art of building design. The esthetic phase is mounting, too, in its practical contribution to American business and social life.

There have been tremendous developments in the manufacturing side of the building industry. Not only have great capitalists become actively interested but the very size of the industry has forced added vision, and together with an intricate combination of research and technical improvements, which is completely changing many of our construction methods, materials and equipment, some of the great basic divisions of the building industry, such as steel and lumber, are being forced to the development of hundreds of specialties for the building industry. There has been a tremendous increase in the application of engineering skill to the solution of building problems. All of these, while they require far greater study and more comprehensive understanding on the part of the architect, contribute in turn to the quality of the finished buildings.

The detailed figures of the Building Forecast for the Western and Southwestern States are shown in the accompanying tabulation and indicate total construction activity, exclusive of public works, roads and utilities of $1,099,583,100.00. This tabulation will also show proportionate building activity in each respective zone and in each of the bulding types. They have been carefully developed in the same manner used successfully for the past eight years and while no human forecast can be accurate, at least they have the advantage of indicating average possibilities for 1930.

WESTERN STATES

Type of Building	Requirements for New Buildings by Percentages			Forecast in Dollars, 1930	
	1929	1930	Change		
Automotive	2.4	2.7	+ .3	16,859,200	
Banks	2.2	1.2	—1.0	7,281,600	
Apartments	14.3	11.1	—3.2	68,355,200	
Apartment Hotels	7.1	5.9	—1.2	36,367,000	
Clubs, Fraternal, etc.	2.7	2.5	— .2	15,243,800	
Community, M'm'rial	1.9	4.3	+2.4	26,752,500	
Churches	3.4	3.9	+ .5	23,993,200	
Dwellings (under $20,000)	4.1	2.6	—1.5	15,846,500	
Dwellings ($20,000 to $50,000)	2.5	2.5	—	15,571,800	
Dwellings (over $50,000)	2.2	1.8	— .4	11,041,300	
Hotels	11.2	17.0	+5.8	104,468,000	
Hospitals	5.6	3.9	—1.7	24,190,000	
Industrial	4.9	4.8	— .1	29,725,000	
Office Buildings	14.8	11.8	—3.0	72,426,500	
Public Buildings	4.7	7.1	+2.4	44,062,700	
Schools	9.8	12.1	+2.3	74,374,000	
Stores	3.9	2.4	—1.5	14,509,900	
Theatres	1.5	1.5	—	9,056,900	
Welfare Y.M.C.A., etc.	.8	.9	+ .1	5,510,400	615,635,500

SOUTHWESTERN STATES

Automotive	2.9	3.9	+1.0	18,978,000	
Banks	1.6	2.2	+ .6	10,688,900	
Apartments	5.7	5.4	— .3	26,026,800	
Apartment Hotels	4.3	5.1	+ .8	24,571,300	
Clubs, Fraternal, etc.	3.6	3.7	+ .1	17,978,000	
Community, M'm'rial	1 6	1.2	— .4	5,608,800	
Churches	6.6	7.2	+ .6	34,784,400	
Dwellings (under $20,000)	3.1	2.4	— .7	11,676,800	
Dwellings ($20,000 to $50,000)	2.1	2.1	—	9,983,500	
Dwellings (over $50,000)	1.6	1.4	— .2	6,810,100	
Hotels	12.5	15,9	+3.4	76,711,000	
Hospitals	3.5	9.6	+6.1	46,649,800	
Industrial	9.8	4.4	—5.4	21,381,500	
Office Buildings	11.4	8.7	—2.7	41,922,500	
Public Buildings	5 1	3.9	—1.2	18,876,400	
Schools	16.5	15.9	— .6	77,174,300	
Stores	2.2	2.1	— .1	10,282,800	
Theatres	2.1	3.1	+1.0	15,260,200	
Welfare, Y.M.C.A., etc.	3.8	1.8	—2.0	8,581,300	483,947,600
Totals					1,099,583,100

HASTINGS DISAPPROVED SKYSCRAPERS

The skyscraper, as it has been developed in this country, did not meet with the approbation of Thomas Hastings, foremost architect, whose death occurred last month. On several occasions he expressed himself as deeply regretting that New York had not forbidden by law the erection of high buildings. He believed that an eight-story building was high enough. Skyscrapers he considered an engineering rather than an architectural triumph. A skyline such as New Yorkers sometimes boast about he considered more of a novelty with no real appeal to the eye. He urged that waste spaces be utilized rather than piling up height in congested districts thereby increasing traffic with injurious effects to the health of the public. It might be added that Mr. Hastings was best known for his works that are far removed from the skyscraper class.—*Stone.*

CONTRACTORS SHOULD ADVERTISE

Many contractors are not sold on the idea of publicity for the construction industry. They ask us what good it will do. Well; we are told there are twenty-eight mountains in Colorado that are higher than Pike's Peak. We can't name any of them. And neither can you. But we all have heard of Pike's Peak because it has had so much publicity. So business is good in Pike's Peak and the twenty-eight higher peaks just stand there, and, we imagine, complain that business is poor and wonder why people flock to Pike's Peak and refuse to believe in publicity.—*Construction Advisor.*

LEGALITY OF FIRM NAMES

The attorney general of California, U. S. Webb, at the request of the State board of architecture, has passed upon the conformance of certain names of firms with the statute regulating the practice of architecture.

The full text of the ruling follows:

In your letter of Dec. 4, 1929, you state that your board is having some difficulty in determining whether certain designations of firm or partnership names are in accordance with the law, and you therefore present the following cases to us for our opinion as to the legality thereof:

"(1) A. MacDonald, architect, in partnership with Oliver Olds, nonarchitect, and Mrs. Bates, nonarchitect, operating under the name of 'Wm. Bates & Company, A. MacDonald, Architect, Oliver Olds, Manager.'

"William Bates was a certified architect, but has been deceased for five years. Is this in accordance with the law?"

This firm designation would be legal providing that the name of the architect appears as the architect on all instruments of service and no other member of such partnership be so designated.

"(2) A. and B. O'Grady, nonarchitects, and W. A. Jones, architect, operating under the name of 'O'Grady Bros., and W. Jones, Architect.' "

We believe that the firm name herein sufficiently designates Mr. Jones as the only architect of the partnership.

"(3) S. C. Hardacher, nonarchitect, conducting a business designing golf courses and styling himself, 'Golf Architect.' Can the word 'architect' be legally used in this connection?"

Section 9 of the act in question provides that the word 'architect' means a person who holds a certificate to practice architecture in the State of California under authority of this act. We do not believe therefore, that one should style himself "golf architect" unless the provisions of the act have been complied with.

"(4) Williams-Ravens, nonarchitects, engaged in the real estate business operating a home planning department under the title of 'Williams-Ravens Co., Architectural Dept." Is this a violation?"

It would not be permissible for the Williams-Ravens Co. to use the designation "architectural department."

"(5) John Smith, architect, B. Johnson, nonarchitect, operating under the title of 'East Bay Planners,' would the board be right in prosecuting this man?"

We believe this to be a legal designation.

"(6) The following firm is operating under the style of "Curby & Rivets, Architect and Engineer.'

Mr. Curby is an architect, and Mr. Rivets, nonarchitect. The question with us is, how will we be able to tell which is the architect and which is the engineer. Is this a legal style of firm name?"

We believe this designation to be legal.

"(7) John Gray, architect, operating under the fictitious name of Gray & Gray, architects, his brother Paul Gray, architect, formerly associated with him, having died about a year ago, in this connection we would like to know if it is legal for John Gray to operate under the name of Gray & Gray, Architects."

This firm should designate itself "Gray & Gray, Architect," in order to comply with the provisions of the act regulating the practice of architecture.

INFORMATION ABOUT REGISTRATION LAWS

Information as to registration laws now in force in the following states may be obtained from the National Council of Architectural Registration Boards, 175 West Jackson Boulevard, Chicago, Illinois, and, from the state agencies named below:

Arizona—State Board of Registration for Architects, Phoenix. California—State Board of Architecture, N. D., 537-538 Phelan Building, San Francisco; State Board of Architecture, S. D., 1124 Sun Finance Building, Los Angeles. Colorado—State Board of Examiners of Architects, Chamber of Commerce Building, Denver. District of Columbia—Board of Examiners and Registrars of Architects, Room 422, Municipal Building, Washington, D. C. Florida—State Board of Architecture, 32 West Forsyth Street, Jacksonville. Georgia—State Board of Registration of Archtects, Atlanta. Hawaii—Territorial Board of Registration, Honolulu. Idaho—Department of Law Enforcement, Boise. Illinois—Department of Education and Registration, Springfield. Indiana—State Board of Registration for Architects, State Capitol, Indianapolis. Iowa—State Board for Registration of Architects, 810 Hubbell Building, Des Moines. Louisiana—State Board of Architectural Examiners, Hibernia Building, New Orleans. Michigan—State Board of Registration of Architects, Detroit. Minnesota—State Board of Registration for Architects, 801 Phoenix Building, Minneapolis. Mississippi—The Mississippi State Board of Architecture, Gulfport. Montana—Board of Architectural Examiners, Bozeman. New Jersey—State Board of Architects, 219 E. Hanover Street, Trenton. New York—State Board for Registration of Architects, Albany. North Carolina—State

ADVERTISING ARCHITECTURE AND THE ARCHITECT

IN the September number of *The Octagon,* official organ of the American Institute of Architects, there was reference to consideration given by the Executive Committee of the Institute, to the subject of advertising architecture and the architect. A letter from Merritt Harrison, of the Indiana Chapter, in favor of local advertising by Chapters, was printed.

The Board of Directors, at its November meeting, ordered the inclusion of this subject on the convention program—at Washington in May. Time will be given then to those in favor of advertising by Chapters, or local groups, and to those opposed.

The following letter by S. Bruce Elwell, of the Boston Chapter, discusses the subject in an interesting way:

There seems to be three reasons why the architectural profession balks at the thought of advertising architecture and the architect. The first reason is because the architect, by education, training, and natural inclination, dislikes any suggestion of advertising as unprofessional and smacking too strongly of the "go-getter" spirit of business to be dignified. In fear of any suggestion of advertisement the architects have failed, I think, to realize the difference between advertising and the possibility of educating the public in a dignified way. Make this change in the presentation of the matter and I am sure it will change the point of view of many architects.

The second reason why architects object to any form of so-called advertising and may even question the advantage of trying to "Educate the Public" is because they do not see the need of it.

Conditions have changed rapidly since before the last war, we will all agree, and the profession of architecture has felt the changes together with all the other professions, businesses and trades.

Of late years there is a decided tendency from a number of sources to belittle the work of the architect. Even in the larger types of work there is a growing tendency to make the architect only a subordinate part of a large organization. Many contractors feel they can work fully as successfully for the client from a set of drawings made by their organization or some draftsman. The material men show attractive designs which can be constructed without the need of an architect. The building magazines even include Service Bureaus in their organizations, which bureaus are really competing with the architect and have the advantage of direct advertising from which the bona fide architect is prohibited.

Can we blame the public then for wondering what the architect does or why he should be paid a commission when from so many sources they hear that building can be well done without an architect, but from no general source do they get the vital information as to what the architect really does to give his clients something which the client can get in no other way.

Architecture, too, is a profession about which many private individuals, promoters and business men feel they know a great deal. They are not ashamed to say as much to their friends and colleagues, even if they do not always go quite so far with the architect himself. How can the public understand the vast amount of thought, training, experience and technical knowledge required in connection with the successful building, unless they are given this information?

If there is any doubt as to these facts, please compare the amount of work done in this country without architects to the amount done by them.

The third reason appears to be that many architects doubt whether it is possible to present to the public in an interesting and dignified way, the information as to the scope and value of architectural services. That this program can be made a success I have not the slightest doubt, for architects have imagination, an unusual appreciation of the fitness of things; and a willingness to give unstintingly of themselves to their problems.

To determine the best course of procedure will take time and thought, of course, together with the advice of experts in the line of publicity. It is evident, however, that such a campaign cannot be the work of individuals, but must result from the cooperation of a group of reputable and established architects in each community.

Yours very truly,
S. BRUCE ELWELL.

Board of Architectural Registration, Greensboro. North Dakota—State Board of Architecture, Bismarck. Oklahoma—State Board of Examiners of Architects, Stillwater. Oregon—State Board of Architectural Examiners, Portland. Pennsylvania—State Board of Examiners of Architects, Harrisburg. South Carolina—State Board of Architectural Examiners, Columbia. South Dakota—State Board and Architectural Examiners, Mitchell. Tennessee—State Board of Architectural and Engineering Examiners, Nashville. Utah—State Board of Architecture, Salt Lake City. Virginia—State Board for the Examination and Certification of Architects, Professional Engineers and Land Surveyors, Lynchburg. Washington — State Board for Registration of Architects, Olympia. West Virginia—State Board of Examiners and Registration of Architects, Charleston. Wisconsin—Board of Examiners of Architects, Madison.

Registration laws are pending in Ohio and Missouri.

Copies of the "Model Form of Law for the Registration of Architects" will be sent complimentary on request addressed to the Executive Secretary, A. I. A., The Octagon, Washington, D. C.

LICENSING CONTRACTORS

At a mass meeting of over 500 general contractors in Portland, meeting at the Builders' Exchange on December 7, a vote was taken which favored a repeal of the city ordinance in Portland requiring license for contractors, in that it is unnecessary and unconstitutional, according to arguments made.—*Washington State Architect.*

SOCIETY and CLUB MEETINGS

SOUTHERN CALIFORNIA CHAPTER

Restriction of the height of buildings to a minimum of 150 feet in the county of Los Angeles and all cities of the county, is advocated in a resolution passed by Southern California Chapter, A. I. A. at its January meeting. A resolution was also adopted congratulating John C. Austin on his election to the presidency of the Los Angeles Chamber of Commerce.

Annual reports of the outgoing officers were read and the officers for the new year were installed as follows; H. C. Chambers, president; Carleton M. Winslow, vice-president; H. Roy Kelley, secretary; Ralph C. Flewelling, treasurer; Gordon B. Kaufmann, director for three years.

Rabbi Magnin was the speaker of the evening, taking as his subject the origin and development of the Jewish synagogue. After the meeting, which was in charge of A. M. Edelman, the members adjourned to the main auditorium of the temple where several organ numbers were played by Edouard Nies-Berger and an explanation of the mural paintings, which feature the interior decorations of the auditorium, was given by Rabbi Dubin. Pierpont Davis, outgoing president, was presented by the Chapter with four volumes on "Architectural Antiquities of Great Britain."

Members and guests present were: Stiles O. Clements, Reginald D. Johnson, R. Germain Hubby, David J. Witmer, J. E. Allison, John P. Krempel, John W. F. Binderheim, J. J. Backus, S. Charles Lee, Ronald Campbell, Dwight Gibbs, C. H. Cheney, Warren Cheney, Breo Freeman, Wm. H. Harrison, H. C. Chambers, J. T. Zeller, Henry F. Withey, Robert B. Stacy-Judd, Charles F. Plummer, Edgar H. Cline, George J. Adams, Henry R. Davis, A. C. Zimmerman, R. D. MacPherson, G. Stanley Wilson, Douglas Honnold, Robert H. Orr, Roy C. Mitchell, C. Harold Hopkins, Eugene Dertout, Leland F. Fuller, E. L. Taylor, Floyd Mueller, Fitch H. Haskell, A. S. Nibecker, Jr., A. M. Edelman, D. C. Allison, Myron Hunt, Horatio W. Bishop, H. Roy Kelley, W. F. Risley, Ralph C. Flewelling, Carleton M. Winslow, Earl T. Heitschmidt, J. E. Kauthen, Claud Beelman, Arthur R. Hutchason, Edwin Bergstrom, Wm. Richards, Sumner Hunt, W. J. Dodd, Pierpont Davis, J. J. Miller, Dr. D. W. Edelman, Rabbi E. F. Magnin, Rabbi Dubin and Edouard Nies-Berger.

Following is the resolution on height limit of buildings adopted by the Chapter:

Whereas, The Southern California Chapter, American Institute of Architects, after an intensive study of the subject of height limit of buildings and of zoning requirements in relation thereto, has concluded:

(1) That comprehensive protective measures or zoning laws for regulating the establishment of zones or districts and limiting the height, bulk, character and use of buildings in each such zone or district, should be enacted to the end that similar zones or districts in the city of Los Angeles and in the county of Los Angeles and, as far as possible, in all other cities of the county of Los Angeles shall have uniform or closely related requirements.

(2) That in framing such requirements special attention should be given to requiring adequate permanent light courts for all classes of buildings which use windows for their supply of light and air and that such light courts in all cases should be within the confines of the property on which each building is erected, and further that such requirements should require proper setbacks to furnish light and air to streets and alleys and on (side) property lines. Now, therefore, be it

Resolved, That the Southern California Chapter of the American Institute of Architects urgently recommends to the proper authorities of the city of Los Angeles and to the county of Los Angeles and of other cities of the county that they adopt building and zoning requirements in conformity with the requirements set out in the preamble hereof and that will unify building requirements throughout the various territories, and be it further

Resolved, That this Chapter further recommends that the maximum limit of height of buildings in the said cities and county shall be fixed at not to exceed 150 feet.

WASHINGTON STATE CHAPTER

The regular meeting of the Washington State Chapter, A. I. A., for December was held at the College club, Seattle, Thursday, December 5, with a good attendance, and after enjoying the usual dinner the meeting was called to order by Vice-President Narramore.

Communications were presented by the secretary as follows: From Jacobs & Ober, consulting engineers, replying to a letter from the Chapter relative to cooperation in designing the proposed Aurora Avenue bridge, Seattle, the Chapter being advised that Messrs. Jacobs and Ober would be glad to confer with the Chapter Committee; also communications from the county and city officials acknowledging receipt of the

Chapter's resolution regarding the proposed bridge from Mercer Island to the main land. These matters were referred to the Civic Design Committee by a vote which provided for increasing the size of the committee by the addition of two more members.

A letter was read from Regional Director Fred F. Willson, informing the Chapter of a proposed visit to the Northwest of President Hammond and Vice-President Hewlett of the Institute some time in February, and suggesting that the annual meeting be postponed to that date.

Treasurer Allen presented his report of the finances, which was accepted. Reports from committees being next in order, Mr. Lockman presented a resolution proposed by the Ordinance Committee of which he is chairman to the effect that all plans filed with the Seattle building department be certified by a licensed architect. This resolution was adopted.

Mr. Thomas presented the report of the City Plan Committee relative to the city's disposition of Denny Park, Seattle. The report advocating the retention of this park area by the city until a comprehensive plan of park development should determine the future park needs in this locality. The report was adopted.

The Contact Committee with the contractor's organization reported monthly meetings at which construction problems were discussed in a friendly cooperative spirit and President Ford read telegrams he had sent for the Chapter urging early construction of Seattle's new federal building.

The Chapter listened to a very interesting address by Butler Sturtevant on European Gardens with some reflections of them in local work. Some fine examples of gardens in Spain, England, France and Italy were shown and it was explained how the natural mode of living affected garden design.

EXAMINATIONS FOR ENGINEERS

A large number of qualified civil engineers will be added to the California state department of public works in the near future by means of civil service examinations to be held by the civil service commission. Vacancies in both office and field positions are located throughout the state, with salaries ranging from $100 to $230 a month.

Written examinations will be given at Sacramento, San Francisco and Los Angeles, and at such of the following points as the number of applicants may warrant: Bishop, Fresno, San Bernardino, San Luis Obispo, Eureka and Redding. Oral interviews will be given at Sacramento, San Francisco and Los Angeles.

SAN FRANCISCO ARCHITECTURAL CLUB

The annual meeting of the San Francisco Architectural Club was held January 8th and was well attended. Theo. G. Ruegg was elected president, Ira H. Springer was elected vice president and W. J. Alexander, secretary. Waldon B. Rue and C. Jefferson Sly will serve as directors.

Much interest was manifested in the future of the club and a spirit of fraternity and good fellowship prevailed, with the promise to make the year 1930 the biggest and most profitable in the history of the club.

A feature of the evening was an address by Harry Langley, retiring president in which he reviewed the work of the past administration stressing the high ideals that the officers had set before the membership and reporting successful accomplishment of a number of important problems.

As a token of appreciation for his administration Mr. Langley was presented with a beautiful watch charm.

In making the presentation Felix Raynaud paid glowing tribute to Past President Langley and to the officers serving with him during the past year.

L. A. ARCHITECTURAL CLUB

The annual meeting of the Los Angeles Architectural Club was held January 21st, in the banquet hall on the 8th floor of the Chamber of Commerce building. Dinner was served at 6:30.

Following the business meeting Monroe Butler spoke on the subject of "Democratizing American Business." Mr. Butler, who is the assistant to the president of the California Reserve Company, was enthusiastically received. The dominating point of his talk was that the architectural profession and building industry have a human side.

S. H. Taylor of the Lincoln Electric Company, Cleveland, Ohio, gave a lecture on electric arc welding illustrated with a motion picture of that process as applied in the erection of the Upper Carnegie building in Cleveland.

The club decided to hold a costume dance some time in March.

Officers were elected as follows: President, Sumner Spaulding; Vice-presidents, Fitch Haskell, Ralph Flewelling and Luis Payo; Treasurer, Kemper Nomland; Secretary, Rene Mussa; Manager, George P. Hales; Directors, J. E. Stanton, Julian Garnsey and Robert Lockwood.

CONVENTIONS AND EXHIBITIONS

March 31-April 5th—Twelfth Annual Home Show, Grand Central Palace, New York City.

March-April—International Exhibition of Housing and Modern Industrial Applied Arts. Nice, France.

April 15-May 10—Third Annual Decorative Art Exhibition, Women's City Club, 465 Post street, San Francisco.

May 20-October 1—Exhibition of Modern Industrial and Decorative Arts, Stockholm, Sweden.

May 21-23—American Institute of Architects, sixty-third convention, Mayflower Hotel, Washington, D. C.

May 26-30—International Congress of Building and Public Works, London.

June 19-30—Pan-American Congress of Architects, Rio de Janeiro, Brazil.

September—International Architects' Congress, Budapest, Hungary.

October—Third annual meeting California State Society of Architects, Del Monte and Monterey, California.

NEW SOCIAL HALL

George Rushforth, architect of San Francisco, is preparing plans for a reinforced concrete social hall and classrooms to be built adjoining the Trinity M. E. Church at Durant and Dana streets, Berkeley, at a cost of $100,000. This comprises the second unit of the church's new building program.

STOCK BROKERS' OFFICES

Messrs. Kent and Hass, architects, have been preparing plans of late for several new offices in San Francisco, Sacramento, Los Angeles and Portland for brokerage firms. These offices will contain the latest equipment in stock boards, as well as electrical fixtures, floor coverings and office furniture.

GRACE CATHEDRAL

Work is progressing on the first unit of Grace Cathedral and the chapel, nearing completion, will be joined to this unit, which will bring the Cathedral proper up to "the crossing" after which it is hoped new interest will be greatly stimulated so that other units may follow.

YOSEMITE VALLEY WORK

E. T. Spencer, architect for the Yosemite Camp Curry Company, is working on plans for the enlargement, improvement and beautification of this company's holdings in the valley proper and for its hotels in the mountains nearby.

WASHINGTON STATE SOCIETY

The annual meeting of the Washington State Society of Architects held in December resulted in the election of the following officers:

John S. Hudson, of Seattle, president; Robert M. Thorne, Renton, first vice-president; Julius A. Zittle, Spokane, second vice-president; Stanley A. Smith, Pullman, third vice-president; Paul Bergfeld, Tacoma, fourth vice-president; O. F. Nelson, Seattle, re-elected as secretary; H. G. Hammond, Seattle, re-elected treasurer, and William J. Jonas (junior past president) trustee, with term expiring in 1933. The hold-over trustees are T. F. Doan, Bellingham, T. Buchinger, Seattle, and Harry H. James, Seattle.

The January meeting was held at the Builders Permanent Exhibit, 721 Virginia street, Seattle, with dinner served at 6 p. m., following which the architects passed the evening in business session and social conversation.

LANDSCAPE ARCHITECTS MEET

The annual meeting of the Pacific Coast Chapter, American Society of Landscape Architects, was held at the studio of Cook-Hall-Cornell, Los Angeles, on December 27th, 1929, and the following officers were elected for the ensuing year:

President: George Gibbs
Vice-President: L. Deming Tilton
Secretary: J. W. Gregg
Treasurer: Chas. H. Diggs.

SOCIETY OF ENGINEERS

At the annual meeting of the Society of Engineers of San Francisco, held January 11th in the California room of the Palace Hotel, officers for the year 1930-31 were elected as follows: President, A. E. Zimmerman; Vice-President, H. T. Sutcliffe; Treasurer, Wm. G. Rawles; Secretary, Harvey D. Miller; Directors for two years, Robert S. Clark and John H. Sheusner.

QUANTITY SURVEYORS MEET

The Quantity Surveyor's Association held their monthly dinner at the Classic Grill, San Francisco, Tuesday evening, January 7. The meeting was well attended. Arthur Priddle was elected president and Gus A. Thollander, secretary.

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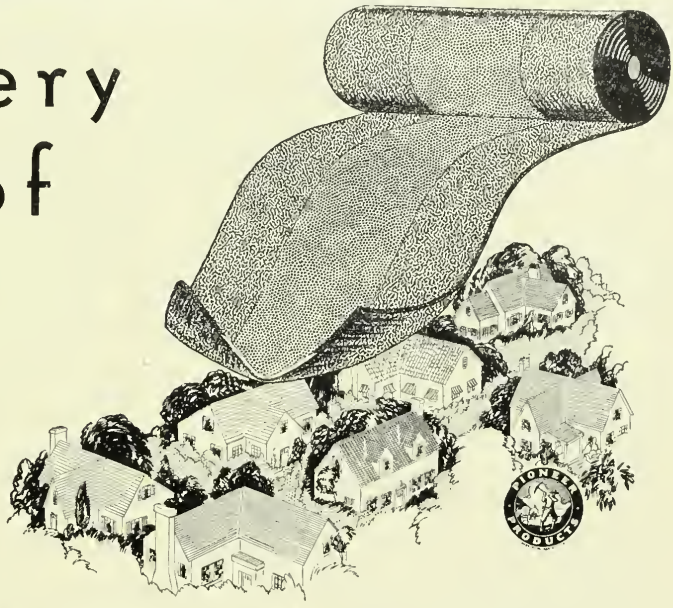

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BOOK REVIEWS

By Edgar A. Kierulff

OUR CITIES TODAY AND TOMORROW (A survey of planning and zoning progress in the United States). By Theodora Kimball Hubbard (Hon. Librarian, American City Planning Institute) and Henry Vincent Hubbard (Professor of Regional Planning, Harvard University). Published by Harvard University Press, Cambridge, Mass. Price $5.00.

To the metropolitan architect in general and to the specialist in city planning in particular, this volume makes a direct appeal. Nicely balanced, well arranged and thought out by its authors, both of whom are authorities on this subject, it conveys a message that should be read and heeded by those interested in the proper progress of American cities. Excellent diagrams and photographs illustrate the book and the chapters embrace practically every angle of a very broad problem, concisely and pointedly.

"SMALL HOMES OF ARCHITECTURAL DISTINCTION." (A book of suggested plans). Designed by the Architects' Small House Service Bureau, Inc., Robert T. Jones, A. I. A. Harper & Brothers, publishers, New York and London. Price $5.00.

A splendidly arranged volume on small houses with photographs, drawings, sketches and plans. Well printed, a large paper copy bound in stout tan buckram, there is sufficient description to make the book interesting and clear to the lay reader who should be interested in the small home and its possibilties, as well as to the architect, designer, builder or contractor. Among some of the interesting studies are homes for the average purse; bungalows with attached garages; small homes in brick; porches and sleeping porches, cottages; the small house in concrete, from footings to roof, and many other similar details for the prospective owner and designer of smaller homes of the better class.

"TODAY'S BUILDING ESTIMATOR," By I. P. Hicks. William T. Comstock Company, publishers, 1929.

This small slender book of pocket size furnishes the estimator with a reference guide of great value, insuring him the making of accurate estimates. It contains instructions as to use and such items as "estimating by the square, lenial foot and by the piece." Some chapter headings are "Estimating Cement Work," "Timber Measure," "Rafter Table" and "Material Quantity Tables." A number of pages ruled and containing space for notes, etc., are also provided. The book should prove time saving to contractors, specification writers, estimators and architects.

DETROIT COMPANY EXPANDS

A merger of two pioneers in the building material field is announced by the Detroit Steel Products Company, makers of Fenestra steel windows. Effective January 1, the Detroit Steel Products Company purchased the Holorib Company of Cleveland, Ohio, including all manufacturing rights and patents to its product, the Holorib insulated roof deck.

Through the purchase of "Holorib," the first insulated roof deck manufactured in the United States, Detroit Steel Products Company gains a product closely allied to its industrial windows and sold through the same channels to the same market. This is the first unit to be added in the development of the company's recently announced expansion program, which included the purchase of 40 acres and the erection of a million dollar factory building.

BATHROOM HEATING

An electric heater can now be installed in a bathroom at a lower cost than that of installing a hot air duct or radiator. No special wiring is required as the heater can be connected to a convenience outlet circuit. Heat is available at all times. A heater qualifies for the combination lighting and heating rate which gets as low as 1½c per k. w. hour.

The Apex Manufacturing Company of Emeryville, California, has recently placed on the market a 1000 Watt 110 volt porcelain enamelled bathroom heater in any of eight colors.

CONGRESS OF ARCHITECTS

The Fourth Pan-American Congress of Architects and its contemporary Architectural Exposition will be held in the city of Rio de Janeiro, Brazil, from the 19th to the 30th of June.

The arrangements for participation by Institute representatives will be under the general direction of the Committee on Foreign Relations, Kenneth M. Murchison, 101 Park Avenue, New York City, Chairman.

ADDITION TO NEWHALL BUILDING

A two story Class A addition, costing $180,000, is being planned for the Newhall Building at 260 California Street, San Francisco, Lewis P. Hobart, architect.

BYERS COMPANY EXPANDS

Reorganization and expansion of sales and distributing facilities throughout the entire country was effected January 1 by the A. M. Byers Company as a further step in the sweeping program inaugurated some time ago to meet the steadily increasing demand for wrought iron pipe.

Realignment of sales territories, involving the promotion of nine members of the Byers organization to division managerships, is a basic feature of the new program.

"Figures just compiled for the close of the calendar year show a continued and marked growth of demand for the special services rendered by wrought iron, particularly where corrosion and vibration are problems," said L. M. Johnston, executive vice president. "The increases are especially notable in standard sizes for home and building installations and replacements.

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"The new program we have undertaken with regard to our sales and distributing organization is designed to improve and speed up service for builders and contractors, as well as for the marine, railroad and oil industries and other special fields."

NATIONAL STEEL FABRIC

The National Steel Fabric Company, Pittsburgh, Pa., recently concluded one of its most successful and interesting sales conventions. It was held in the spacious Rose room of the Keystone Athletic Club. Delegates from practically every section of the country were present. The sales convention was unlike any of the other previous ones in that men from every trading area were permitted to relate their actual experiences in their respective selling fields, what they do to get an improved business, and just what should be done in 1930 to produce more profitable sales for dealers selling the products of National Steel Fabric Company.

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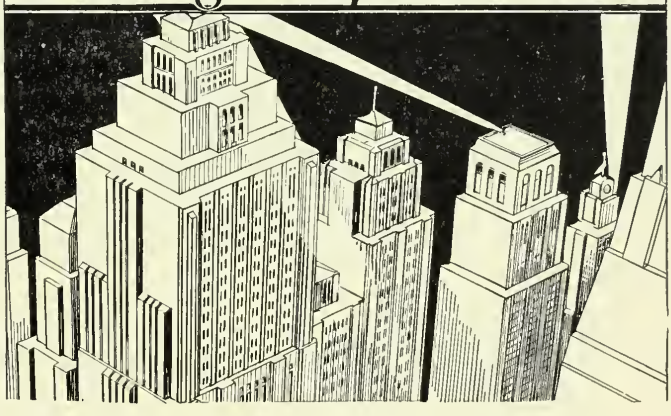

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Port Orford Cedar Products Co., Marshfield, Oregon, represented by Dent & Russell, Inc., Porter Bldg., Portland, Oregon.

MAIL CHUTES
Cutler Mail Chute Co., represented by Price Building Specialties Co., 683 Howard St., San Francisco and Continental Building Specialties Co., 1216 Hibernian Bldg., Los Angeles.

MARBLE
American Marble Company, 25 Columbus Square, San Francisco.
Clervi Marble Company and Mosaic Co., 1721 San Bruno Avenue, San Francisco.
Ray Cook Marble Company, foot of Powell St., Oakland.
Joseph Musto Sons-Keenan Co., 535 N. Point St., San Francisco.
Vermont Marble Co., Coast branches, San Francisco, Los Angeles and Tacoma.
Tompkins-Kiel Marble Company, 505 Fifth Ave., New York, also Chicago, Philadelphia and San Francisco.

MASONRY ANCHORS
Steelform Contracting Company, Monadnock Bldg., San Francisco; Edwards & Wildey Bldg., Los Angeles.

METAL COVERED DOORS
Fire Protection Products Co., 1101 Sixteentn St., San Francisco.
Forderer Cornice Works, Potrero Ave., San Francisco.

MILLWORK
The Fink & Schindler Co., Inc., 218-68 13th St., San Francisco.
Pacific Mfg. Co., San Francisco, Los Angeles, Oakland and Santa Clara.
Sunset Lumber Company, First and Oak Streets, Oakland.
Lannom Bros. Mfg. Co., Fifth and Magnolia Sts., Oakland.
Chicago Lumber Company of Washington, 66th and 69th Aves. and Spencer Street, Oakland.
E. K. Wood Lumber Co., Frederick and King Streets, Oakland.

MONEL METAL
"Inco" brand, distributed on the Pacific Coast by the Pacific Foundry Company, Harrison and 18th Streets, San Francisco, and Eagle Brass Foundry, Seattle, Wash.

OBJECTS OF ART
S. & G. Gump Company, 246 Post St., San Francisco, and Honolulu, T. H.

OIL BURNERS
Rayfield Oil Burner, Coast Distributors, E. A. Cornely, Inc., 1452 Bush Street, San Francisco.
S. T. Johnson Company, 1337 Mission St., San Francisco; 940 Arlington St., Oakland; 1729 Front St., Sacramento, and 230 N. Sutter St., Stockton.
Vaughn-G. E. Witt Co., 4224-28 Hollis Street, Emeryville, Oakland.
Ray Burner Company, 170 Sutter St., San Francisco, and 2206 San Pablo Ave., Oakland.
Coen Company, 112 Market Street, San Francisco.
Wayne Home Equipment Company, Fort Wayne, Indiana, represented by Hill and Stoops, 4214 Broadway, Oakland, Calif.

ORNAMENTAL IRON AND BRONZE
Federal Ornamental Iron and Bronze Co., 16th St. and San Bruno Ave., San Francisco.
Michel & Pfeffer Iron Works, 1415 Harrison St., San Francisco.
Palm Iron and Bridge Works, Sacramento.

PAINTING, DECORATING, ETC.
The Tormey Co., 681 Geary St., San Francisco.
A. Quandt & Sons, 374 Guerrero Street, San Francisco.
D. Zelinsky & Sons, Inc., 165 Grove St., San Francisco.

PAINTS, OILS, ETC.
The Paraffine Companies, Inc., San Francisco, Los Angeles, Oakland, Portland and Seattle.
Bass-Hueter Paint Company, San Francisco, Los Angeles, Portland, Seattle.

PANEL BOARDS
Drendell Electric & Mfg. Co., 1760 Howard St., San Francisco.
Frank Adam Electric Company, 340 Fremont St., San Francisco, and 1127 Wall Street, Los Angeles; general offices, St. Louis, Mo.
Westinghouse Elec. and Mfg. Co., Crocker First National Bank Bldg., San Francisco; general offices and works, East Pittsburgh, Pa.

PANELS—HARDWOOD
White Brothers, 5th and Brannan Sts., San Francisco, and 500 High St., Oakland.

PANIC EXIT DEVICES
Von Duprin, manufactured by Vonnegut Hardware Company, Indianapolis; sold by D. A. Pancoast Co., 605 Market Street, San Francisco.

PARTITIONS—MOVABLE OFFICE
Dahlstrom Metallic Door Company, Jamestown, N. Y., Coast plant, 3350 E. Slauson Ave., Los Angeles.
Pacific Mfg. Co., Monadnock Building, San Francisco; factory at Santa Clara.

PENCILS AND ERASERS
A. W. Faber Company, Newark, N. J., represented by Cahen, Davis & Company, 313 Severance Bldg., Los Angeles, Calif.

PIPE—WROUGHT IRON
Reading Iron Co., Reading, Pa., and Balboa Bldg., San Francisco.

PLASTER
"Empire," manufactured by Pacific Portland Cement Co., Hunter-Dulin Building, San Francisco, Portland, San Jose and Los Angeles.

PLASTER BASE
"Celotex," Western Asbestos Magnesia Co., 25 South Park, San Francisco.

PLASTERING CONTRACTORS
A. Knowles, Call Bldg., San Francisco.
MacGruer & Company, 266 Tehama Street, San Francisco, and Pacific Mutual Bldg., Los Angeles.

PLUMBING CONTRACTORS
Gilley-Schmid Company, 198 Otis St., San Francisco.
Hateley & Hateley, 1710 Tenth St., Sacramento.
Luppen & Hawley, 906 7th St., Sacramento.
Scott Co., Inc., 243 Minna St., San Francisco.
Wm. F. Wilson Co., 248 Fourth Street, San Francisco.
Geo. A. Schuster, 4712 Grove St., Oakland.
W. H. Picard, 5656 College Ave., Oakland.

PLUMBING SUPPLY HOUSES
H. Mueller Manufacturing Company, 1072-76 Howard St., San Francisco.
Standard Pacific Fixtures, 349 Sutter St., San Francisco.
Tay-Holbrook, Inc., 165 8th Street, San Francisco.
Clarence Drucker, manufacturers' representative, 307 Minna St., San Francisco.
Walworth Company, Boston, Mass., San Francisco office, 235 Second Street.

PLYWOOD
Port Orford Cedar Products Co., Marshfield, Oregon, represented by Dent & Russell, Inc., Porter Bldg., Portland, Oregon.

PRESSED STEEL
Berger Manufacturing Co., 1120 Mission St., San Francisco.

PRESSURE REGULATORS
Vaughn-G. E. Witt Co., 4224-28 Hollis Street, Emeryville, Oakland.

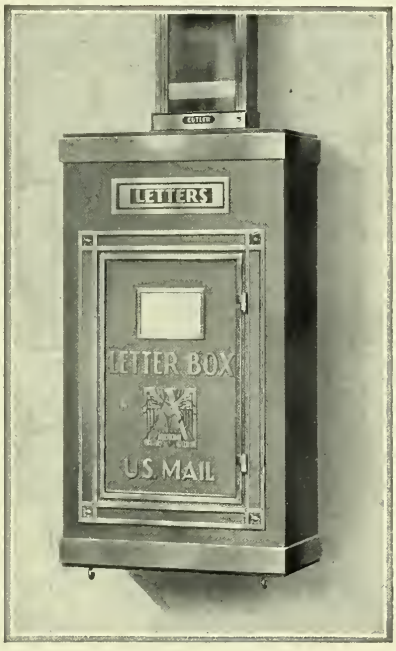
PUMPING MACHINERY
Simonds Machinery Co., 816 Folsom Street, San Francisco; 5220 East 4th Street, Los Angeles.

PUMPS—HAND OR POWER
Ocean Shore Iron Works, 558 Eighth St., San Francisco.
S. F. Bowser & Co., Inc., 425 Brannan St., San Francisco.

REFRIGERATORS
"General Electric," sold by the George Belsey Company, Architects Building, Los Angeles; L. H. Bennett, Rialto Bldg., San Francisco.
McCray Refrigerator Sales Corp., Kendalville, Indiana;; San Francisco office, 765 Mission Street.

REINFORCING STEEL
Soule Steel Company, Inc., Rialto Bldg., San Francisco, and Los Angeles.
Gunn, Carle & Co., Inc., 444 Market St., San Francisco.
Pacific Coast Steel Co., Hunter-Dulin Bldg., San Francisco.
United Alloy Steel Corporation, Canton, Ohio; Western Sales Office, Santa Fe Bldg., San Francisco.
Truscon Steel Company, Sharon Bldg., San Francisco.

ROOF MATERIALS
El Rey Products Co., 1633 San Pablo St., Los Angeles; 960 7th St., San Francisco; 65 Columbia St., Seattle; 850 E. Taylor St., Portland.
Kraftile Company, office and factory at Niles; show room, 55 New Montgomery Street, San Francisco.
"Malthoid" and "Ruberoid," also "Pabco" 10 and 20 year roofs, manufactured by the Paraffine Companies, Inc., San Francisco, Los Angeles, Oakland, Portland and Seattle.
Gladding, McBean & Co., 660 Market St., San Francisco; 621 S. Hope St., Los Angeles; 1500 First Ave. South, Seattle; 454 Everett St., Portland; 15th and Dock Sts., Tacoma, and 22nd and Market Sts., Oakland.
N. Clark & Sons, 112-116 Natoma Street, San Francisco; works, West Alameda, California.
W. S. Dickey Clay Mfg. Co., Rialto Bldg., San Francisco.
Johns-Manville Corporation of California, 159 New Montgomery St., San Francisco.
United Materials Co., Sharon Building, San Francisco.
Western Asbestos Magnesia Company, 25 South Park, San Francisco.
"Torfoleum" Insulation distributed by Mailliard & Schmiedell, 203 California St., San Francisco.
Pioneer Paper Co., 5500 South Alameda, Los Angeles; Hearst Bldg., San Francisco; offices in Portland, Seattle, Salt Lake City, Spokane and Denver.



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ALPHABETICAL LIST OF ADVERTISERS ON PAGE 162

RUGS AND CARPETS—IMPORTED
Kent-Costikyan, Inc., 485 Fifth Ave., New York City, with offices at 442 Post St., San Francisco and 816 South Figueroa St., Los Angeles.
W. & J. Sloane, 216 Sutter St., San Francisco.

SAFETY TREADS
Price-Teltz Company, 683 Howard St., San Francisco.
Gunn, Carle & Co., 444 Market St., San Francisco.

SASH CHAINS
American Chain Company, Inc., Bridgeport, Conn., and 425 Second St., San Francisco.
The Smith & Egge Mfg. Co., P. O. Box 1040, Bridgeport, Conn.; 506 American Bank Bldg., Los Angeles.

SCAFFOLDING FOR CONTRACTORS
Steelform Contracting Company, Monadnock Bldg., San Francisco; Edwards & Wildey Bldg., Los Angeles.

SEATING—SCHOOL, THEATER, CHURCH
Home Manufacturing Company, Inc., 552 Brannan St., San Francisco.
C. F. Weber & Co., San Francisco, Los Angeles, Phoenix, Ariz.; Reno, Nevada.

SELF-RELEASING FIRE EXIT DEVICES
Von Duprin, manufactured by Vonnegut Hardware Company, Indianapolis; sold by D. A. Pancoast Co., 604 Market St., San Francisco.

SHADES
William Volker & Co., 631 Howard Street, San Francisco; 2301 East 7th Street, Los Angeles.

SHEATHING
The Sisalkraft Company, 205 W. Wacker Drive, Chicago, Ill.; 55 New Montgomery St., San Francisco and Hammond Lumber Co., Los Angeles.

SHEATHING AND SOUND DEADENING
Western Asbestos Magnesia Co., 25 South Park, San Francisco.

SHEET METAL WORKS
Forderer Cornice Works, Potrero Ave., San Francisco.

SHOW CASES
Home Manufacturing Company, Inc., 552 Brannan St., San Francisco.
Mullen Manufacturing Company, 64 Rausch St., San Francisco.

SOUND ABSORBING TREATMENT
Johns-Manville Corporation, 159 New Montgomery St., San Francisco.

SIGNALING & PROTECTIVE SYSTEMS
Garnett, Young & Co., 390 Fourth St., San Francisco.

SLUDGE BED GLASS-OVERS
Lord & Burnham Co., Irvington, N. Y., and 208 So. La Salle St., Chicago, Ill.

STEEL FABRIC
Wickwire-Spencer Steel Corporation, 144 Townsend St., San Francisco.
Soule Steel Company, Rialto Bldg., San Francisco, and Los Angeles.

STEEL FORMS
Steelform Contracting Company, Monadnock Bldg., San Francisco; Edwards & Wildey Bldg., Los Angeles.

STEEL TANKS
Ocean Shore Iron Works, 55 Eighth St., San Francisco.

STEEL LUMBER
Genfire Steel Co., Sheldon Bldg., San Francisco; Builders' Exchange, Oakland.

STEEL SASH
Bayley-Springfield solid steel sash, sold by Gunn, Carle & Co., 444 Market St., San Francisco.
"Fenestra" Solid Steel Sash, manufactured by Detroit Steel Products Co., factory sales office, 526 Hunter-Dulin Bldg., San Francisco.
Berger Manufacturing Co., 1120 Mission St., San Francisco.
Michel & Pfeffer Iron Works, 1415 Harrison St., San Francisco.
Truscon Steel Company, 74 New Montgomery St., San Francisco.
W. S. Lea, 653 South Clarence St., Los Angeles.

STEEL—STRUCTURAL
Bethlehem Steel Company, Pittsburg, Pa., Matson Building, San Francisco; Pacific Building, Los Angeles; L. C. Smith Building, Seattle; American Bank Building, Portland, Oregon.
Golden Gate Iron Works, 1541 Howard St., San Francisco.
Judson Pacific Company, C. F. Weber Bldg., Mission and Second Sts., San Francisco, shops, San Francisco and Oakland.
McClintic-Marshall Company, 2050 Bryant Street, San Francisco.
Herrick Iron Works, 18th and Campbell Sts., Oakland.
Pacific Coast Eng. Co., foot 14th St., Oakland.
Pacific Coast Steel Co., Hunter-Dulin Bldg., San Francisco.
Palm Iron & Bridge Works, Sacramento.
Schrader Iron Works, Inc., 1247 Harrison St., San Francisco.
Western Iron Works, 141 Beale Street, San Francisco.
Consolidated Steel Corporation, 1200 N. Main St., Los Angeles.

STORE FURNITURE
Berger Manufacturing So., 1120 Mission St., San Francisco.

STREET LIGHTING EQUIPMENT
Westinghouse Electric and Mfg. Co., East Pittsburgh, Pa., and Crocker First National Bank Bldg., San Francisco.

STRUCTURAL STEEL SHAPES
Bethlehem Steel Company, Matson Building, San Francisco; Pacific Finance Building, Los Angeles; L. C. Smith Building, Seattle; American Bank Building, Portland, Oregon.

SUN TAN ROOMS
Lord & Burnham Co., Irvington, N. Y., and 208 So. La Salle St., Chicago, Ill.

SWIMMING POOL GLASS ENCLOSURES
Lord & Burnham Co., Irvington, N. Y., and 208 So. La Salle St., Chicago, Ill.

SWITCHES AND SWITCHBOARDS
Drendell Electrical & Mfg. Co., 1345 Howard St., San Francisco.
Westinghouse Elec. & Mfg. Co., Crocker First Nat. Bank Bldg., San Francisco; general offices and works East Pittsburgh, Pa.
and Works, Pittsburgh, Pa.

TELEPHONES—AUTOMATIC, PRIVATE
Automatic Electric, Inc., Chicago, Ill.; 1112 Pacific Finance Bldg., Los Angeles.

TELEPHONE SERVICE ARRANGEMENTS
All Bell Telephone Companies. Apply nearest Business Office, or American Telephone and Telegraph Company, 195 Broadway, New York.

THERMOSTATS FOR HEAT REGULATION
Johnson Service, Milwaukee, Wis.; Rialto Building, San Francisco.

TERRA COTTA
N. Clark & Sons, 116 Natoma Street, San Francesco.
National Terra Cotta Society, 230 Park Avenue, New York, N. Y.
Gladding-McBean & Co., San Francisco, Los Angeles, Portland and Seattle.

TILE CLAY
The Mosaic Tile Company, Zanesville, Ohio; West Coast Offices: E. K. Porter, 563 Second St., San Francisco; O. M. Bendure, 2470 Enterprise St., os Angeles.

TILE—ENAMEL STEEL
Porstelain Tile Co., 66 Twelfth Street near Market, San Francisco, and 1410 Madison Street, Oakland.

TILE—RUBBER, CLAY, CORK, ETC.
Rossman Corporation of California, 49 Geary Street, San Francisco and Architects' Bldg., Los Angeles.
N. Clark & Sons, 112-116 Natoma Street, San Francisco; works, West Alameda, Cal.
Congoleum-Nairn, Inc., D. N. & E. Walter & Co., San Francisco, and Broadway Department Store, Los Angeles.
Gladding, McBean & Co., 660 Market St., San Francisco; 621 S. Hope St., Los Angeles; 1500 First Ave. South, Seattle; 454 Everett St., Portland; 15th and Dock Sts., Tacoma, and 22nd and Market Sts., Oakland.
Kraftile Company, factory at Nilee; 55 New Montgomery Street, San Francisco.
Mangrum-Holbrook, Inc., 1235 Mission St., San Francisco.
United States Rubber Co., 300 Second St., San Francisco, and 923 Los Angeles St., Los Angeles, Calif.
Armstrong Cork Tile, sold by Van Fleet-Freear Co., 557 Howard Street, San Francisco; 3307 Wilshire Boulevard, Los Angeles.

UNDERFLOOR DUCT SYSTEM
Johns-Manville Corporation, 159 New Montgomery St., San Francisco.

VACUUM HEATING SYSTEM
C. A. Dunham Company, Dunham Bldg., 450 Ohio St., Chicago, and principal Coast cities.

VALVES—PIPES AND FITTINGS
Clarence Drucker, Manufacturers' Agent, 307 Minna Street, San Francisco.
Grinnell Co., Fifth and Brannan Sts., San Francisco.
Mueller Company, 1072 Howard Street, San Francisco.
Sloan Valve Company, Chicago; E. C. Whalen, 954 Western Pacific Bldg., Los Angeles; W. J. Driscoll, 482 Monadnock Bldg., San Francisco; E. C. Fallein, U. S. National Bank Bldg., Denver; S. D. Cochran, L. C. Smith Bldg., Seattle, Wash.

VARNISHES
Baass-Hueter Paint Company, San Francisco, Los Angeles, Portland, Seattle.
The Paraffine Companies, Inc., San Francisco, Los Angeles, Portland and Seattle.

VENETIAN BLINDS
C. F. Weber & Company, 601 Mission St., San Francisco.

VENTILATING EQUIPMENT
B. F. Sturtevant Co., Monadnock Bldg., San Francisco; Los Angeles, Portland and Seattle.

VENTILATORS
"The Panelouvre," sold by M. E. Hammond, Pacific Bldg., San Francisco.

VITREOUS CHINAWARE
Standard-Pacific Plumbing Fixtures, 349 Sutter St., San Francisco; 919 W. Seventh St., Los Angeles; 1301 Fifth Ave., Seattle Wash.; 48 Fifth St., Portland, Ore.

WATER HEATERS—GAS
Pittsburg Water Heater Company, (gas), 478 Sutter Street, San Francisco.
Ruud Heater Co., (gas), 245 Mason Street, San Francisco.

WALL BEDS, SEATS, ETC. (See Beds),

WATER COOLERS
General Electric Refrigerator, L. H. Bennett, Rialto Building, San Francisco, and the George Belsey Company, Architects Building, Los Angeles.
Rip Van Winkle Wall Bed Co., 51 Second St., San Francisco, and 792 22nd St., Oakland.

WALL TILE
The Mosaic Tile Company, Zanesville, Ohio; West Coast Offices: E. K. Porter, 563 Second St., San Francisco; O. M. Bendure, 2470 Enterprise St., os Angeles.

WATERPROOFING
Johns-Manville Corporation, 159 New Montgomery St., San Francisco.
The Paraffine Companies, Inc., San Francisco, Los Angeles, Oakland, Portland, Seattle.
Gunn, Carle & Co., 444 Market St., San Francisco.
The Sisalkraft Company, 205 W. Wacker Drive, Chicago, Ill.; 55 New Montgomery St., San Francisco and Hammond Lumber Co., Los Angeles.

WATER SOFTENERS AND FILTERS
The Permutit Company, 440 Fourth Ave., New York City, and Balboa Bldg., San Francisco.

WATER SUPPLY SYSTEMS
Kewanee Water Supply System—Simonds Machinery Co., agents, 816 Folsom St., San Francisco; 520 East Fourth Street, Los Angeles.

WINDOW SHADES
William Volker & Co., 631 Howard Street, San Francisco; 2301 East 7th Street, Los Angeles.
W. & J. Sloane, 216 Sutter St., San Francisco.
D. N. & E. Walter & Co., 562 Mission St., San Francisco.

WINDOWS—STEEL, REVERSIBLE, ETC.
Campbell and Voigtmann Metal Windows, distributed by Fire Protection Products Company, 1101 Sixteenth St., San Francisco.
Crittall Casement Window Company, Detroit, Mich. Badt-Falk & Co., 74 Montgomery Street, San Francisco. F. T. Crowe & Co., 216 Walker Bldg., Seattle. R. H. Hoskins, 510 Hyde Bldg., Spokane. McCracken-Ripley Co., 61 Albina Avenue, Portland. F. T. Crowe & Co., 1177 Dock Street, Tacoma, Wash. Crittall Casement Window Co., 504 Union Insurance Bldg., Los Angeles.
Hauser Window Co., 1362 Harrison St., San Francisco.
Detroit Steel Products Co., Detroit, Mich.; Hunter-Dulin Building, San Francisco and Pershing Square Building, Los Angeles
W. C. Lea, 653 South Clarence St., Los Angeles.

WIRING SYSTEM
Westinghouse Electric and Manufacturing Company, Crocker First National Bank Bldg., San Francisco; general offices and works, East Pittsburgh, Pa.

Estimator's Guide

Giving Cost of Building Materials, Wage Scale, Etc.

Amounts quoted are figuring prices and are made up from average quotations furnished by material houses to three leading contracting firms of San Francisco.

All prices and wages quoted are for San Francisco and the Bay District. There may be slight fluctuation of prices in the interior and southern part of the state. Freight cartage, at least, must be added in figuring country work.

Overtime in wage scale should be credited with time and a half, Sunday and holidays double.

Bond—1½% amount of contract.

Brickwork—
Common, $32 to $38 per 1000 laid, (according to class of work).
Face, $90 to $115 per 1000 laid, (according to class of work).
Brick Steps, using pressed brick, $1.10 lin. ft.
Brick Walls, using pressed brick on edge, 75c sq. ft. (Foundations extra.)
Brick Veneer on frame buildings, $ .90 sq. ft.
Common, f.o.b. cars, $14.50 plus cartage.
Face, f.o.b. cars, $55.00 per 1000, carload lots.

HOLLOW TILE FIREPROOFING (f.o.b. cars in carload lots).

3x12x12 in.	$ 96.00 per M
4x12x12 in.	108.00 per M
6x12x12 in.	156.00 per M
8x12x12 in.	255.00 per M

HOLLOW BUILDING TILE (f.o.b. cars in carload lots).

8x12x5½	$108.00
6x12x5½	74.00

Composition Floors — 18c to 30c per sq. ft. In large quantities, 18c per sq. ft. laid.
Rubber Tile—65c per sq. ft.

Terazzo Floors—50c to 60c per sq. ft.
Terazzo Steps—$1.50 per lin. ft.
Mosaic Floors—80c per sq. ft.

Concrete Work (material at San Francisco bunkers) — Quotations below 2000 lbs. to the ton.

No. 3 rock, at bunkers	$1.40 per ton
No. 4 rock, at bunkers	1.40 per ton
Eliott pea gravel, at bnkrs.	1.40 per ton
Washed gravel, at bnkrs.	1.40 per ton
Eliott top gravel, at bnkrs.	1.40 per ton
City gravel, at bunkers	1.40 per ton
River sand, at bunkers	1.00 per ton
Delivered bank sand	1.00 cu. yd.

Note—Above prices are subject to discount of 10c per ton on invoices paid on or before the 15th of month, following delivery.

SAND
Del Monte, $1.75 to $3.00 per ton.
Fan Shell Beach (car lots, f.o.b. Lake Majella), $2.75 to $4.00 per ton.
Cement, $2.44 per bbl. in paper sks.
Cement (f.o.b. Job, S. F.) $2.64 per bbl.
Cement (f.o.b. Job, Oak.), $2.64 per bbl.
Rebate of 10 cents bbl. cash in 15 days.
Atlas "White" .....$ 8.50 per bbl.
Forms, Labors average 22.00 per M.
Average cost of concrete in place, exclusive of forms, 28c per cu. ft.
4-inch concrete basement floor.....13c to 14c per sq. ft.
4½-inch concrete basement floor.....14c to 15c per sq. ft.
2-inch rat-proofing....6½c per sq. ft.
Concrete Steps.....$1.26 per lin. ft.

Dampproofing—
Two-coat work, 20c per yard.
Membrane waterproofing—4 layers of saturated felt, $5.50 per square.
Hot coating work, $2.00 per square.

Electric Wiring — $3.00 to $9.00 per outlet for conduit work (including switches).
Knob and tube average $2.25 to $5.00 per outlet, including switches.

Elevators—
Prices vary according to capacity, speed and type. Consult elevator companies. Average cost of installing an automatic elevator in four-story building, $2600; direct automatic, about $2500.

Excavation—
Sand, 70 cents; clay or shale, $1.25 per yard.
Teams, $10.00 per day.
Trucks, $21 to $27.50 per day.
Above figures are an average without water. Steam shovel work in large quantities, less; hard material, such as rock, will run considerably more.

Fire Escapes—
Ten-foot balcony, with stairs, $65.00 per balcony.

Glass (consult with manufacturers)—
Double strength window glass, 15c per square foot.
Quartz Lite, 50c per square foot.
Plate 80c per square foot.
Art, $1.00 up per square foot.
Wire (for skylights), 27c per square foot.
Obscure glass, 25c per square foot.
Note—Add extra for setting.

Heating—
Average, $1.80 per sq. ft. of radiation, according to conditions.

Iron—Cost of ornamental iron, cast iron, etc., depends on designs.

Lumber (prices delivered to bldg.site)
Common, $23.00 per M (average).
Common O. P. select, average, $33.00 per M.

1 x 6 No. 3—Form lumber	$20.00 per M
1 x 4 No. 1 flooring	42.00 per M
1 x 4 No. 2 flooring	40.50 per M
1 x 4 No. 3 flooring	35.00 per M
1 x 6 No. 2 and better flooring	41.00 per M
1¼ x 4 and 6 No. 2 flooring	50.00 per M

Slash grain—

1 x 4 No. 2 flooring	$35.00 per M
1 x 4 No. 3 flooring	33.00 per M
No. 1 common run to T. & G	30.00 per M
Lath	4.50 per M

Shingles (add cartage to prices quoted)—

Redwood, No. 1	$ .90 per bdle.
Redwood, No. 2	.75 per bdle.
Red Cedar	.90 per bdle.

Hardwood Flooring (delivered to building)—

13-16x3¼" T & G Maple	$135.00 M ft.
1 1-16x2¼" T & G Maple	145.50 M ft.
⅞x3½ sq. edge Maple	132.50 M ft.

	13-16x2¼" T&G	⅜x2" T&G	5-16x2" Sq. Ed.
Clr. Qtd. Oak	$220.00 M	$160.00 M	$178 M
Sel. Qtd. Oak	150.00 M	122.00 M	131 M
Clr. Pla. Oak	155.00 M	110.00 M	113 M
Sel. Pla. Oak	132.00 M	79.00 M	97 M
Clear Maple	147.00 M	101.00 M	

Laying & Finishing 16c ft. 15c ft. 13c ft.
Wage—Floor layers, $9.00 per day.

Building Paper—

1 ply per 1000 ft. roll	$4.00
2 ply per 1000 ft. roll	6.00
3 ply per 1000 ft. roll	9.25
Sash cord com. No. 7	$ 1.05 per 100 ft.
Sash cord com. No. 8	1.20 per 100 ft.
Sash cord spot No. 7	1.75 per 100 ft.
Sash cord spot No. 8	1.10 per 100 ft.
Sash weights cast iron	57.00 ton

Nails, $3.25 base.
Belgian nails, $3.00 base.

Millwork—
O. P. $85.00 per 1000. R. W., $92.00 per 1000 (delivered).
Double hung box window frames, average, with trim, $6.50 and up, each.
Doors, including trim (single panel, 1¾ in. Ore. pine) $7.00 and up. each.
Doors, including trim (five panel, 1¾ in. Oregon pine) $6.00 each.
Screen doors, $3.50 each.
Patent screen windows, 25c a sq. ft.
Cases for kitchen pantries seven ft. high, per lineal ft., $6.00 each.
Dining room cases, $7.00 per lineal foot.
Labor—Rough carpentry, warehouse heavy framing (average), $11.00 per M.
For smaller work, average, $22 to $30 per 1000.

Marble—(Not set), add 50c to 65c per ft. for setting.

Alaska	$1.40 sq. ft.
Columbia	1.40 sq. ft.
Golden Vein Yule Colo	1.70 sq. ft.
Pink Lepanto	1.50 sq. ft.
Italian	1.75 sq. ft.

Tennessee ..... 1.70 sq. ft.
Verde Antique ..... 3.00 sq. ft.

NOTE—Above quotations are for ⅞ inch wainscot in large slabs f.o.b. factory. Prices on all other classes of work should be obtained from the manufacturers.

Floor Tile—Set in place.

Verde Antique ..... $2.50 sq. ft.
Tennessee ..... 1.50 sq. ft.
Alaska ..... 1.35 sq. ft.
Columbia ..... 1.45 sq. ft.
Yule Colorado ..... 1.45 sq. ft.
Travertine ..... 1.60 sq. ft.

Painting—

Two-coat work ..... 30c per yard
Three-coat work ..... 40c per yard
Whitewashing ..... 4c per yard
Cold Water Painting ..... 8c per yard
Turpentine, 90c per gal. in cans and 75c per gal. in drums.
Raw Linseed Oil—$1.36 gal. in bbls.
Boiled Linseed Oil—$1.39 gal. in bbls.

Carter or Dutch Boy White Lead in Oil (in steel kegs)

Per. Lb.
1 ton lots, 100 lbs. net weight 12¾c
500 lb. and less than 1 ton lots 12½c.
Less than 500 lb. lots 12c

Dutch Boy Dry Red Lead and Litharge (in steel kegs)

1 ton lots, 100 lb. kegs, net wt. 12¾c
500 lb. and less than 1 ton lots 12½c
Less than 500 lb. lots 13c

Red Lead in Oil (in steel kegs)

1 ton lots, 100 lbs. net weight 13¾c
500 lb. and less than 1 ton lots.... 14c
Less than 500 lb. lots 14¼c

Note—Accessibility and conditions cause wide variance of costs.

Patent Chimneys—

6-inch ..... $1.00 lineal foot
8-inch ..... 1.50 lineal foot
10-inch ..... 1.85 lineal foot
12-inch ..... 2.10 lineal foot

Pipe Casings — 14″ long (average), $5.00 each.

Plastering—Interior—

	Yard
1 coat, brown mortar only, wood lath	$0.40
2 coats, lime mortar hard finish, wood lath	.52
2 coats, hard wall plaster, wood lath	.55
3 coats, metal lath and plaster	1.00
Keene cement on metal lath	1.25
Ceilings with ¾ hot roll channels metal lath	.67
Ceilings with ¾ hot roll channels metal lath plastered	1.40
Shingle partition ¾ channel lath 1 side	.62
Single partition ¾ channel lath 2 sides 2 inches thick	2.20
4-inch double partition ¾ channel lath 2 sides	1.30
4-inch double partition ¾ channel lath 2 sides plastered	2.45

Plastering—Exterior—

	Yard
2 coats cement finish, brick or concrete wall	$1.00
2 coats Atlas cement, brick or concrete wall	1.25
3 coats cement finish No. 18 gauge wire mesh	1.75
3 coats Atlas finish No. 18 gauge wire mesh	2.05

Wood lath, $4.50 per 1000.

2.5-lb. metal lath (dipped)	.19
2.5-lb. metal lath (galvanized)	.22
3.4-lb. metal lath (dipped)	.24
3.4-lb. metal lath (galvanized)	.29

¾-inch hot roll channels, $45 per ton.
Hardwall plaster, $15.40 ton; $12.95 in paper sacks (rebate 15c sack).
Finish plaster, $16.40 ton; in paper sacks, $13.85 (rebate 10c sack).
Dealer's commission, $1.00 off above quotations.
Hydrate Lime, $19.50 ton.
Lime, f.o.b. warehouse, $2.25 bbl.; cars, $2.15
Lime, bulk (ton 2000 lbs.), $16.00 ton.
Wall Board 5 ply, $43.00 per M.

Composition Stucco—$1.60 to 2.00 per sq. yard (applied).

Plumbing—

From $60.00 per fixture up, according to grade, quantity and runs.

Roofing—

"Standard" tar and gravel, $5.25 per square for 30 squares or over.
Less than 30 squares, $5.50 per sq.
Tile, $19.00 to $35.00 per square.
Redwood Shingles, $11.00 per square in place.
Cedar Shingles, $10.50 sq. in place..
Recoat, with Gravel, $3.00 per sq.

Sheet Metal—

Windows—Metal, $1.80 a sq. foot.
Fire doors (average), including hardware, $2.00 per sq. ft. (not

Skylights—

Copper, $1.35 sq. ft. (not glazed).
Galvanized iron, 28c sq. ft. (not glazed).

Stone—

Granite, average, $5.50 sq. foot in place.
Sandstone, average Blue, $3.50; Boise, $2.60 sq. ft. in place.
Indiana Limestone, $2.60 per sq. ft. in place.

Store Fronts—

Copper sash bars for store fronts, corner, center and around sides, will average 75c per lineal foot.
Note—Consult with agents.

Steel Structural—$85.00 per ton erected). This quotation is an average for comparatively small quantities
Light truss work higher; plain beam and column work in large quantities, less.
Cost of steel for average building (erected), $82.00 per ton.

Reinforcing—

Base price for car load lots, $2.45 100 lbs., f.o.b. cars.
Average cost to install, $23 per ton.

Steel Sash—

All makes, from S. F. stock, 18c to 30c per square foot.
All makes, plant shipment, 18c to 30c per square foot.
(Includes mullions and hardware.)

Tile—White glazed, 75c per foot, laid.
White floor, 75c per foot, laid.
Colored floor tile, $1.00 per ft. laid.
Promenade tile, 80c per sq. ft., laid.

1930 WAGE SCHEDULE FOR SAN FRANCISCO BUILDING TRADES

(Five Working Days)

Craft	Journeymen Mechanics
Asbestos workers	$ 8.00
Bricklayers	11.00
Bricklayers' hodcarriers	7.00
Cabinet workers, (shop)	7.50
Cabinet workers, (outside)	9.00
Carpenters	9.00
Cement finishers	9.00
Electric workers	9.00
Electrical fixture hangers	8.00
Elevator constructors	10.00
Elevator helpers	7.00
Engineers, portable and hoisting	9.00
Glass workers	8.50
Hardwood floormen	9.00
Housemovers	8.00
Housesmiths, arch. iron, skilled all branches	9.00
Housesmiths, arch. iron, not skilled all branches	8.00
Housesmiths, reinforced concrete, or rodmen	9.00
Iron workers (bridge & structural) including engineers	11.00
Laborers, building (6-day week)	5.50
Lathers, channel iron	10.00
*Lathers, all other	8.50
Marble setters	10.00
Marble helpers	6.00
Marble cutters and copers	8.00
Marble bed rubbers	7.50
Marble polishers and finishers	7.00
Millmen, planing mill department	7.00
Millmen, sash and door	6.00
Millwrights	8.00
Model makers	10.00
Model casters	9.00
Mosaic and Terrazzo workers	9.00
Mosaic and Terrazzo helpers	6.00
Painters	9.00
Painters, varnishers and polishers (shop)	7.50
Painters, varnishers and polishers (outside)	9.00
Pile drivers and wharf builders	9.00
Pile drivers engineers	10.00
Plasterers	11.00
Plasterers' hodcarriers	7.50
Plumbers	10.00
Roofers, composition	8.00
Roofers, all others	8.00
Sheet metal workers	9.00
Sprinkler fitters	10.00
Steam fitters	10.00
Stair builders	9.00
Stone cutters, soft and granite	8.50
Stone setters, soft and granite	9.00
Stone carvers	8.50
Stone derrickmen	9.00
Tile setters	10.00
Tile helpers	6.00
Auto truck drivers, less than 2500 lbs.	5.50
Auto truck drivers, 2500 to 4500 lbs.	6.00
Auto truck drivers, 4500 to 6500 lbs.	6.50
Auto truck drivers, 6500 lbs. and over	7.00
General teamsters, 1 horse	5.50
General teamsters, 2 horses	6.00
General teamsters, 4 horses	6.50
Plow teamsters, 4 horses	6.50
Scraper teamsters, 2 horses	6.00
Scraper teamsters, 4 horses	6.00

*On wood lath if piece rates are paid they shall be not less than such an amount as will guarantee, on an average day's production of 1600 lath, the day wage set forth.

Eight hours shall constitute a day's work for all Crafts except as otherwise noted.

Plasterer's hodcarriers, bricklayers' hodcarriers, roofers, laborers, and engineers, portable and hoisting, shall start 15 minutes before other workmen, both at morning and noon.

Five days, consisting of eight hours on Monday to Friday inclusive, commencing January 31, 1930, shall constitute a week's work.

Overtime shall be paid as follows: For the first four hours after the first eight hours, time and one-half. All time thereafter shall be paid double time. Saturday (except laborers), Sundays from 12 midnight Friday, and Holidays from 12 midnight of the preceding day shall be paid double time. On Saturday laborers, building, shall be paid straight time.

Where two shifts are worked in any twenty-four hours shift time shall be straight time. Where three shifts are worked, eight hours pay shall be paid for seven hours on the second and third shifts.

All work shall regularly be performed between the hours of 8 A. M. and 5 P. M., provided, that in emergencies or where premises cannot be vacated for work by mechanics until the close of business, men then reporting for work shall work at straight time; but any work performed after midnight shall be paid time and one-half except on Saturdays, Sundays, and holidays, when double time shall be paid.

Recognized holidays to be New Year's Day, Decoration Day, Fourth of July, Labor Day, Admission Day, Thanksgiving Day and Christmas Day.

Men ordered to report for work, for whom no employment is provided, shall be entitled to two hours pay.

Cathedral Hall, the Beautiful Marble Entrance to Sunset Mausoleum, Berkeley, California

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Telephone MArket 5070

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The **Condor** Check and Closer furnishes the Architect and Builder the **Concealed** feature greatly desired.

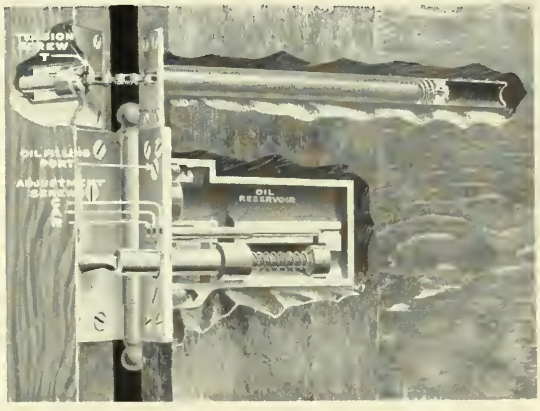
Made in 3 sizes to meet all requirements.

Operates satisfactorily in round top and half doors of wood and metal construction.

Simple to install. Easily adjusted to meet varying draft conditions.

Prices moderate.

Full details gladly furnished.



THE CONDOR CO.
58 Sutter Street
San Francisco, Calif.

TRUSCON DONOVAN AWNING TYPE STEEL WINDOWS

for Health and Safety

Diffused sunlight and draughtless ventilation are provided for schools, offices and other buildings by Truscon Donovan Awning Type Steel Windows. They are operated very simply without window poles by the movement of the lower sash which controls the upper sash. The shades on the open windows act as awnings. Their high quality is evident in their superior design and workmanship. Their cost is moderate due to large production. Full information, literature and quotations on request.

TRUSCON STEEL COMPANY
Warehouses and Offices in Principal Cities
Truscon Steel Company of Canada, Limited, Walkerville, Ontario

PACIFIC COAST PLANT: LOS ANGELES. Pacific Coast Sales and Engineering Offices: San Francisco, Los Angeles, Seattle, Portland. The Universal Window Company, 1916 Broadway, Oakland, Calif., Pacific Coast Distributors.

BUILDING PAPER MEN MEET

The Sisalkraft Company, Chicago, manufacturers of Sisalkraft, reinforced building paper, held the annual sales convention in Chicago December 28 and 30. The field organization which was brought in for this meeting included more than 40 men covering the entire country. The rapid expansion of uses for the product, particularly in the field of concrete curing, has produced a very rapid growth during the past year and still larger plans were laid at the meeting for 1930 sales. One of the features of the convention was an illustrated talk on concrete curing by W. E. Hart of the Portland Cement Association.

COLOR IN DRINKING FOUNTAINS

The Haws Sanitary Drinking Faucet Company, Berkeley, manufacturers of drinking fountains, are now pioneering in the field of color in their products. A vitreous china drinking fountain head, model 4E-2, is manufactured in green, orchid, pale blue, cobalt blue, ivory, brown, and black, as well as white, in fact most any shade to fit in with the architect's color scheme.

While color has been used extensively in other plumbing fixtures for some time, and has proven very popular with the public, color in drinking fountains is something new. The new type of fountain is already in great demand.

IN LARGER QUARTERS

The Oakland Branch of the Walworth California Company, in order to take care of their increasing business and be able to give better service to their customers, have moved to larger quarters at 2635-2645 Peralta street, Oakland. The new quarters have 20,000 sq. ft. under one roof and include all new equipment together with the pipe crane and spur track which will make it possible to give quicker service on all commodities. F. Harrold Gnarini is manager of the Oakland branch.

NEW PRESIDENT PERMUTIT COMPANY

At a meeting of the Board of Directors of The Permutit Company held December 30th, H. Kriegsheim, who has been president of the company for the past seven years, was appointed chairman of the board, and W. Spencer Robertson, formerly secretary of the American Locomotive Company, was appointed president. Mr. Kriegsheim will continue to take active interest in the management of the company.

ADDITION TO MOUNT ZION HOSPITAL

Arthur Brown, Jr., 251 Kearny street, San Francisco, has prepared preliminary plans for a six story Class A hospital wing at Post and Scott streets, San Francisco, for Mount Zion hospital.

BAN UNSIGHTLY BILLBOARDS

Abolishment of billboards and kindred forms of outdoor advertising throughout the United States except within limited areas, is demanded by the Board of Directors of the American Institute of Architects, according to an announcement by C. Herrick Hammond of Chicago, President of the Institute.

The board, it was stated, acted upon the initiative of Secretary Frank C. Baldwin of Washington, who, "called attention to the multiplication of signboards, billboards, and related structures and devices now in evidence on the roads, highways, and boulevards of the United States, and to the resulting destruction of the natural beauty of the face of the earth, with its secondary but equally disastrous effect upon the sensibilities of the people of the United States."

"This selfish desecration of the landscape," a resolution adopted by the Board declared, "has aroused the antagonism of those whose journeys by boat, train and automobile are rendered disagreeable and dangerous by such blatant and obtrusive ugliness.

"The Institute, through its Chapters and its individual members resident in all sections of the country, is convinced that this type of advertising is highly objectionable to a great majority of good citizens.

"The Board hereby calls to the attention of the civic organizations of the country, the public, the press and the legislative bodies of the several states, a national condition which we regard as inexcusable on either esthetic or economic grounds.

"The Board earnestly urges that those agencies which are properly concerned with the cultural and spiritual welfare of the American people, as well as those concerned with their material well being and safety, take vigorous action through the various means at their command, to bring about by regulation, legislation or the force of public opinion, the complete removal of billboards, signboards and related structures from the roads, highways and boulevards of the country, except in such limited areas as may be set aside for such advertising by direct action of the proper authorities."

BEAUTIFUL HOMES

To meet the demand of the present day, buildings must not only be efficiently planned, and soundly built; they must be beautiful.

"It is being found that good architecture in commercial and apartment buildings is a real asset and a sound investment," Rollin C. Chapin of the Minnesota Chapter of the American Institute of Architects points out.

"Rental agencies are confronted with an increasing demand for space in buildings which have 'style' and refinement. The many excellent homes which have been built in Minneapolis in recent years bear witness to a lively appreciation of what is fine in domestic architecture. They are a definite contribution to the beauty of the city."

Paneled hallway of the Martin S. Mitau residence, Atherton, California — a fine example of the richness of stained Port Orford Cedar. Gordon B. Kaufman, Los Angeles, Architect.

A *cream-white cedar* --ideal for interior trim

Under the leadership of distinguished Pacific Coast architects, Port Orford Cedar is becoming widely recognized as an ideal wood for all interior trim.

Enameled, Port Orford Cedar takes on a beautiful, porcelain-like luster. Stained, it reflects warm, rich beauty. Cream-white, minutely grained, it takes finishes easily. Never crinkles or blisters. No trace of grain shows through. Needs no unusual priming coat. Holds enamel for years.

Light and pliable, it works easily and speedily. Never splinters or checks. Free from knots, pitch and rosin. Doesn't warp or twist. Machines easily to special designs.

Your millwork or lumber dealer has Port Orford Cedar lumber and plywood or can obtain it promptly.

Among outstanding uses of Port Orford Cedar are: Clear and shop for garden furniture, porch columns, entrances, Venetian blinds, built-in fixtures; industrial lumber for bulkheading, decking, tunnel lining, boat building.

Mail the coupon to our sales agents for complete information about Port Orford Cedar.

PORT ORFORD CEDAR PRODUCTS COMPANY
MARSHFIELD, OREGON

90% of the world's electric storage batteries depend upon PORT ORFORD CEDAR

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PORT ORFORD CEDAR

The Aristocrat of Woods

DANT & RUSSELL, Inc., Sales Agents,
1102-B Porter Building, Portland, Oregon.

Please send me your illustrated monograph "Port Orford Cedar—Its Properties and Uses"—also "Fine Interiors with Port Orford Cedar."

Name . . . . . .

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"CASTELL"
THE WORLD'S STANDARD DRAWING PENCIL
16 DEGREES OF HARDNESS
A.W. FABER
"CASTELL" POLYCHROMOS PENCILS IN 64 COLORS
A. W. FABER RUBBER ERASERS for the draftsman
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NEWARK, NEW JERSEY
Pencil Manufacturers For Over 168 Years

A Modern Institution Catering to the Hotel and Household Trade

Hotel kitchen equipment, dining room silverware, crockery, glassware, also departments for household supplies and ranges

Tile Contractors

MANGRUM-HOLBROOK COMPANY
1235 Mission Street, San Francisco
Phone MArket 2400

CLAY PRODUCTS INSTITUTE

Ceramists and authorities on all branches of the clay products industry gathered in Los Angeles January 20th from far and wide to attend the annual convention of the Clay Products Institute of California, held in the Architects Building.

More than 50 of the outstanding leaders of the industry, representing about $100,000,000 of invested capital, listened to addresses on the latest trends in construction from such authorities as John J. Jessup, City Engineer of Los Angeles, W. E. Hotchkiss, Dean of the Graduate School of Business Administration of Stanford University, W. S. Dickey, head of the W. S. Dickey Clay Mfg. Company, San Francisco, Fred B. Ortman, Vice President and General Manager Gladding McBean & Co., Presiding President Robert Linton of Clay Products Institute, and Norman W. Kelch, Secretary-Manager of the Institute.

Among the many addresses given, that of Mr. Linton reviewing construction prospects for 1930 in which he declared that construction in the West involving the use of clay products is decidedly on the up curve, created the closest interest. Optimistic forecasts of the amount of construction in the West coupled with the assertion that buildings of the future will be erected for permanence of both materials and earning power featured his talk.

A large gathering assembled for the annual convention luncheon at the Elite cafe.

BUYS DWYER EQUIPMENT COMPANY

Purchase of the business of Dwyer Equipment Company, Chicago, makers of unit heaters for many years, is announced by the C. A. Dunham Co., Chicago, manufacturers of the differential vacuum system of steam heating and of low pressure steam heating appliances.

The Dwyer twinfan unit heaters are made in four types and in a full range of sizes for all requirements of industrial and commercial building heating applications. The exclusive design of Dwyer twinfan heaters handles large volumes of air at moderate temperatures, which has proved to be extremely desirable in modern factory installations. Dwyer twinfan radiators are made entirely of non-corrosive metal and have seamless drawn copper tubes with a copper fin surface metallically attached.

Acquisition of the Dwyer unit heater line is a part of the Dunham expansion policy. Dunham sales and financial growth have shown a steady annual increase during the past 27 years. The Dwyer purchase includes a number of patented designs of unit heater equipment particularly suited for use in conjunction with the Dunham differential heating system in industrial plants, garages, and buildings with large open spaces, as well as certain locations in office buildings, hotels, apartments, etc.

SAN FRANCISCO ENGINEER HONORED

Carl E. Grunsky of San Francisco, past president of the American Society of Civil Engineers, was elected president of the American Engineering Council at the opening session of the annual meeting of the Council held at the Mayflower hotel, Washington, January 10-11. Mr. Grunsky, who will serve during 1930 and 1931, succeeds Arthur W. Berresford of New York, past president of the American Institute of Electrical Engineers.

Reports of officers and committees showed the Council to be in a flourishing condition. Mr. Berresford, in an address as retiring president, pointed out that during the ten years of its existence the Council had fulfilled the hopes of its founders, and was firmly established as the instrumentality through which the engineering societies of the nation may actively function in public affairs. A statement issued in behalf of Mr. Grunsky, who is returning from a trip around the world, called upon engineers to realize the obligation of public service which rests upon the profession.

"The American Engineering Council," Mr. Grunsky declared, "will continue, as in the past, not alone to participate in the study and solution of problems affecting the welfare and general progress of the nation, but also to stimulate individual and organized efforts to a better understanding of the relation of the individual engineer and of engineering organizations toward such problems, and to the public in general, all with the purpose of strengthening and broadening the nation's social and economic structure in the interest of progressively higher civilization."

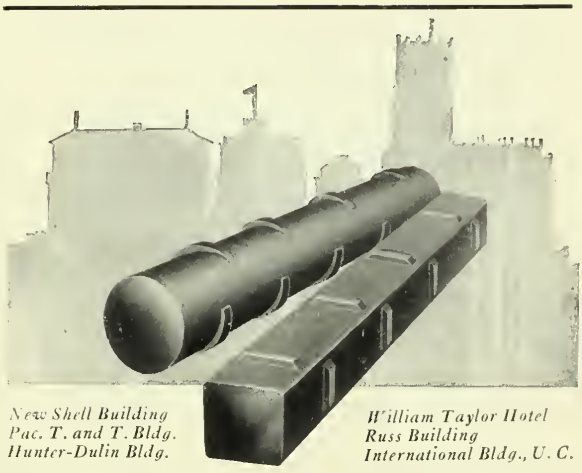
Notable among the accomplishments of 1929, it was pointed out, was the issuance of the report of the Council's committee on street traffic signs, signals and markings. This report, the recommendations of which are already being employed in practice in many of the states of the Union as well as in foreign countries, has, it was stated, commanded worldwide influence. It has been accorded public recognition equal to that of the famous report of the committee on the elimination of waste in industry.

RUSSIAN ARCHITECTURE

Feodor P. Ponomareff, famous Russian architect, has an interesting display of his renderings in the Exhibition rooms of the Architects' Building Material Exhibit, Fifth and Figueroa Streets, Los Angeles.

Mr. Ponomareff is Russian by birth, graduated from Beaux Arts in Moscow, was city architect in Chita, Siberia, for twelve years, where he designed and built over three million dollars worth of commercial buildings, schools, residences and churches, in private practice.

The exhibit is unusual, in that this is the first time that Los Angeles has had the opportunity to view typical Russian renderings. They are typical of Russian Architecture of the 16th-17th and 18th centuries.



New Shell Building
Pac. T. and T. Bldg.
Hunter-Dulin Bldg.

William Taylor Hotel
Russ Building
International Bldg., U. C.

And now the new building of the San Francisco Stock Exchange! Soulé Steel Company has been chosen to fabricate and install in place the reinforcing steel employed in the most distinguished structures of the San Francisco Bay region.

SOULÉ STEEL COMPANY
Rialto Building, San Francisco
Los Angeles Portland

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Invisible Hinges
(Good Taste + Strength)
Completely invisible when the door is closed. Flush doors—clean lines—no projections. Admittedly the ideal hinge for discriminating work.
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See our catalog in Sweet's (pages 1578-9), or write direct to us for samples and complete catalog.
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Authorized Sales and Service Dealers in all Principal Cities

THE FIVE-DAY WEEK FALLACY

Apropos of the recent action of the San Francisco and Oakland Builders' Exchanges in declaring for a five day week, the following editorial desparing the movement appeared in a recent issue of *The Improvement Bulletin* of Minneapolis.

Organized labor in many populous centers is making a strong drive for the five-day week in the building industry. The apparent purpose, as suggested by the leaders of the movement, is to lessen unemployment. There can be little objection to that phase of it. But it is something of a question whether that is the primary purpose of the move. Building has outgrown the early habit of fluctuating between seasonal periods of great activity and periods of extreme depression. The peak in building activity occurs in spring or early summer. Late summer usually sees a cessation of activity The fall may see some awakening or it may not, depending largely upon commercial and industrial conditions, and to some extent, upon weather conditions. And winter, despite vigorous efforts to make it otherwise, is a period of relatively little construction activity.

The result of this is to throw pressure upon the active months. And the five-day week would unquestionably result more in over-time work at premium rates. It is doubtful if it would have any appreciable effect in distributing the work over a greater number of months. The attitude of organized labor suggests that after all, the primary purpose behind the campaign is a raise in labor costs. There has been no indication of a willingness to meet employers on the basis of the same schedule per hour for the five-day week. Instead, the demand has been coupled with a higher hourly wage, increased sufficiently to make the proposed 40-hour week pay as much as the 44-hour week. So instead of the move being what it purports to be—one for a better distribution of labor— it is a move to attain a higher wage scale directly for the regular hours of employment and indirectly by reason of the over-time which would result from the demand for early completion of construction projects.

Building is handicapped by the fact that many construction investments fail to offer an attractive return. During recent months, the stock market has deterred many from investing in new building, because stocks held out a golden promise of early and rich rewards. The hopes of speculators have been rudely dashed. They bought stocks not on a basis of the legitimate earnings to be divided in dividends, but because they believed the popular demand for the stocks would send them to higher levels. Investments in buildings did not offer any such illusory promise. But investment building would be even less attractive if construction costs were to be advanced by further wage increases granted in the guise of the five-day week.

The proposed five-day week, with increased construction costs, would work against new building rather than for it. It would serve to reduce the probable volume of construction and would create a vicious circle that would reduce employment.

CERTIFICATES TO PRACTICE

At the meeting of the State Board of Architectural Examiners, Northern District, on January 28th, the following were granted provisional certificates to practice architecture in California: J. Lloyd Conrich, 630 Lake Street, San Francisco; Sigvald L. Berg, 917 Curtis Street, Berkeley.

ARCHITECT VS CONTRACTOR

(Bulletin Illinois Society of Architects)

Perhaps the easiest way to compare the functions of the architect and contractor is to turn for a moment to the medical field. Here, the architect is comparable to the doctor and the contractor may be likened to the druggist.

In other words, it is the duty of the architect to diagnose the client's building problem and to prescribe a correct treatment based on his highly specialized training and experience. And after the treatment is specified, it is the architect's further task to watch the development of the building project, see that the treatment is correctly administered, and to make such changes as circumstances dictate. The architect is a *professional man* whose plans and specifications are but symbols of his natural talent and the skilled service he renders.

It is commonly the duty of the contractor to assemble the material exactly as prescribed, to organize capital and labor, and to execute the work specified in a prompt and efficient manner. With his technique of organization and construction he must convert the practical developed formula of the architect into a beautiful and useful building. The contractor is primarily a *business man* whose merchandise is the brick, stone, pipes, wiring and so forth, properly placed.

Because each has a separate and distinctly essential function to perform, we believe you will agree with us that *both* the architect and the contractor are necessary to a thoroughly satisfactory building.

GLADDING, McBEAN NEW OFFICIAL

Appointment of George P. Fackt, formerly vice-president and general manager of the Northwestern Terra Cotta Company, Chicago, largest manufacturers of terra cotta in the mid-west, as assistant general manager of Gladding-McBean & Company's entire operations, has been announced by Fred B. Ortman, vice-president and general manager.

Mr. Fackt, who will act as chief lieutenant to Mr. Ortman, will have his offices in the company's Los Angeles headquarters in the Pacific Finance Building. A national authority on terra cotta, its uses and production, the new Gladding, McBean official is a graduate ceramic engineer of Ohio State University. He was organizer, founder and builder of the Denver Terra Cotta Company, of Denver, Colo., which later merged with the Northwestern Company.

"Mr. Fackt's entrance into the Pacific Coast terra cotta field will interest all ceramists," Mr. Ortman said in announcing the appointment. "My company feels fortunate in securing his services, as it strengthens the policy to which Gladding, McBean & Company, has adhered for years, that of taking the lead in any move calculated to foster the progress of the clay products industry in the West."

Specify
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PRODUCTS

The name "DICKEY" is everywhere recognized as a guide to Clay Products of uniformly high quality.

DICKEY MASTERTILE
THE STANDARD HOLLOW BUILDING TILE

Partition Tile	Face Brick
Drain Tile	Fire Brick
Veneering Tile	Paving Brick
Furring Tile	Step & Walk Brick
Fireproofing Tile	Wall Coping
Floor Tile	Flue Lining

DICKEY Flashing Blocks

W. S. DICKEY CLAY MFG. COMPANY
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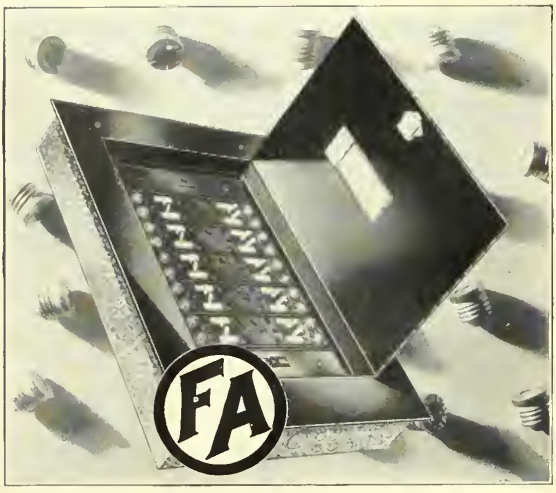

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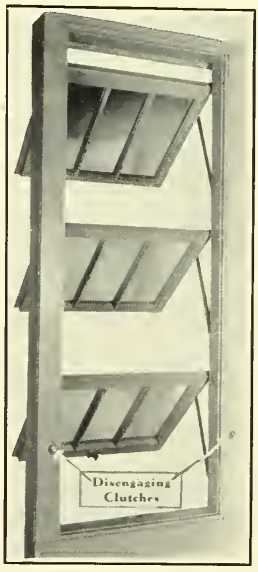

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WHO'S WHO In This Issue

CASEBOLT DAKIN, architect, whose Cielito Lindo is shown in this issue, is a native of California. He has been connected with the architectural profession as an instructor and also as a practicing member in Oakland and its contiguous territory for many years. Mr. Dakin graduated from the University of California, College of Mines, in 1902, and after pursuing a career of engineer for several years, became interested in architecture. He began to study in 1904 and in 1913 obtained his certificate. Mr. Dakin is well known as an instructor, having taught drawing and engineering in the Shasta Union High School from 1915 to 1919 and later became head of the Drawing Department at Lowell High School, San Francisco. In 1927 he re-established offices in Oakland and is now specializing in apartment house and residence work.

WILLIAM C. F. GILLAM, whose interesting sketches appear in this issue, is an architect in Burlingame, California. Mr. Gillam was born in Brighton, England, and received his early architectural training in the London offices of Thomas W. Aldwinckle, F. R. I. B. A., and was later assistant to Thomas Simpson. F. R. I. B. A., for twelve years. In 1903 Mr. Gillam started to practice under his own name and eight years later sailed to Canada where he opened offices in Vancouver, B. C. The year 1922 found him practicing in Burlingame, California, where he is now located and where he designed the beautiful St. Paul's Episcopal church. Mr. Gillam is a water color artist and has interested himself in clay modeling, wood carving and etching. During his career as an architect he has won several architectural competitions which he staunchly advocates for all buildings erected from public funds. Mr. Gillam is a member of the Northern California Chapter A. I. A.

C. R. HARDING, assistant to President Paul Shoup of Southern Pacific Company, at present supervising construction of that company's $12,000,000 railroad bridge across Suisun Bay, California, was born in Hallowell, Me., July 4, 1888. He matriculated at Cornell University, where he achieved scholarship honors, winning membership in Tau Beta Pi, honorary engineering fraternity, and graduated as civil engineer in 1910. Before entering employ of Southern Pacific in 1913, Mr. Harding worked for the American Bridge Company; also he made several surveys in Alaska, Michigan and Costa Rica. Joining the Southern Pacific Company, he rose rapidly from draftsman to assistant to the president. Mr. Harding is member of many engineering societies, the Bohemian Club, San Francisco Commercial Club, Commonwealth Club, California Golf Club, Engineer's Club of San Francisco, New York Railroad Club and Pacific Railway Club.

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Who's Who in this Issue

MILLER & PFLUEGER, who planned the new San Francisco Stock Exchange building, are of the new school of architecture, specializing in the development of building design based upon the use of present day material, rather than following traditional, classical styles.

Among their other achievements in San Francisco are the new Pacific Telephone & Telegraph Building, Metropolitan Life Insurance Building, San Francisco Curb Exchange, a number of schools and theaters and the recently completed structure known as Four Fifty Sutter.

The latter is an unusual building, built for the accommodation of physicians and dentists and embracing an 8-story garage. The telephone building was the first of its design and served as a prototype for a large group of other buildings erected throughout the country.

J. R. Miller, senior member of the firm has practiced architecture in San Francisco for more than a quarter of a century. For several years he served as a member of the State Board of Architectural Examiners, Northern Division. Timothy Pflueger, junior member of the firm, is recognized as one of the foremost designers among the younger members of the profession on the Pacific Coast.

RALPH STACKPOLE, whose talents as a sculptor will be reflected in black granite figures at the base of the pylons of the San Francisco Stock Exchange, was born in Williams, Oregon, in 1885. He is of pioneer stock. His forebears crossed the Atlantic in the sixteenth century. His grandfather, leaving New England, came to the Oregon territory in 1848 and in 1850 brought his family to settle in the fertile Oregon valley. When Stackpole was in his early teens, a newspaper circulation solicitor called on his mother. She showed him the drawings young Stackpole had made. The solicitor told her they were excellent and that the boy should have training, for which encouragement, the mother subscribed for the paper. This was the planting of the seed. Afterwards the mother arranged that he should come to San Francisco and study. At the age of 16 he started at the Mark Hopkins Institute with Arthur Mathews. After about four months his money gave out and he went to work, on a survey gang. Later he studied with Arthur Putman, sculptor, and Gottardo Piazzoni, painter. After the earthquake, he went to Paris and studied in the Ecole des Beaux Arts-Atelier Mercie. In 1908 he returned to San Francisco and under the patronage of Bruce Porter and W. B. Faville started to work on small commissions. Stackpole is an artist and sculptor of international reputation having exhibited in the Salon des Artistes Francais, Salon des Independents and Salon des Tuileries. At the present time, he is instructor of sculpture in the California School of Fine Arts. Some of his best works are near at hand. They are the Coleman and Swanston Memorial Fountains—both in Sacramento, the bust of George Sterling which has been exhibited in San Francisco and his most recent work for the New York Exchange.

ROBERT BOARDMAN HOWARD was selected by the San Francisco Stock Exchange to design the six sculptured panels that decorate the walls of the trading room and to carve the massive door of the Governing Board room. Mr. Howard is one of the younger of the modern school of sculptors and was born in New York City in 1896. He took his training at the California School of Arts and Crafts in Berkeley, finishing at the Art Students League in New York City.

He has worked and traveled extensively in both Europe and the Orient and has exhibited in the Paris Salon. He was awarded the first medal in sculpture in 1923, and the Ann Bremmer prize for painting in 1925 by the San Francisco Art Association.

Among some of his better known works are the decorative sculpture for the theater at Port Chester, New York and the sculptured monuments which he did for the Persian government for their Sesqui Centennial Exposition exhibit in Philadelphia. He has also done several sculptured stone fire places in the West and has a number of sculptures, carvings and paintings on exhibit in New York and San Francisco.

MARTIN A. CHARLES, author of the article on Turkey appearing in this month's issue, was graduated from Princeton University in 1926 and from the School of Architecture of the same University two years later. After working in the office of Schultze and Weaver in New York he went to Turkey as architectural assistant to Dr. R. M. Riefstahl of New York University and made measured drawings in Anatolio. He is at present engaged in similar work in Persia.

STAN POCIECHA PORAY, whose mural paintings were exhibited the past month in the Architects' Building, Los Angeles, and a portfolio of which appears in this issue, is a native of Poland where he studied under the famous painter of soldiers and horses, Adelbert de Kossak. Pociecha Poray was forced to leave his country by a Bolshevist uprising. With two bullets in his body he escaped through Siberia to Japan and for seven years he traveled, painting and lecturing in many of the large foreign cities. Later he went to South America and Cuba and finally his travels lead him to California where he has painted a number of the Missions besides portraits of such well known characters as Hoot Gibson, motion picture actor, and Mae Murray, actress.

EDWARD F. O'DAY, who describes the San Francisco Stock Exchange Building in this issue, has contributed before to **The Architect and Engineer.** He edited in 1906 the Burnham Plan for the Improvement and Adornment of San Francisco. Mr. O'Day was editor of "San Francisco Water" for the Spring Valley Water Company until that organization passed out of existence a short time ago. Mr. O'Day edits the quarterly "Shapes of Clay" for Gladding, McBean & Co. He is a member of the advertising and publicity firm of O'Day & Prosser of San Francisco.

CHAS. H. CHENEY (See issue of January, 1930.)

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MARCH
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SANSOME STREET ENTRANCE, STOCK EXCHANGE, SAN FRANCISCO

MILLER AND PFLUEGER, ARCHITECTS

The
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AND ENGINEER
March, 1930

The ARCHITECT AND ENGINEER

VOLUME C MARCH, 1930 NUMBER THREE

THE SAN FRANCISCO STOCK EXCHANGE

By Edward F. O'Day.

A broad flight of steps leading up to ten Doric columns—that was the fixed quantity in the problem to which Messrs. Miller & Pflueger turned their attention when they were asked to create a Stock Exchange for San Francisco upon the site of a Sub-Treasury Building. Around that problem of esthetics the two architects wheeled their imaginative flight, with the result that San Francisco may now boast of an unique example of the ultra modern in architecture perfectly accommodated to a "portal of the past" that is uncompromisingly classic.

When the gentlemen of the tape and ticker acquired the Sub-Treasury Building —it had lost its intended function with the coming of the Federal Reserve system — they bade their architects spare the beautiful Roman entrance way and raise about that nucleus a structure that would not only serve their needs for at least a half century to come, but would also express their ethical aims as set forth thus in the constitution of the San Francisco Stock Exchange:

"To develop and maintain just and equitable principles of trade and business . . . to promote and enforce high standards of commercial honor and integrity."

Architects of that enskied masterpiece, the San Francisco Telephone Building, and of that impressive monument to the humane sciences of medicine and dentistry, Four Fifty Sutter Street, Messrs. Miller & Pflueger brought delicate perceptions to the consideration of their newest problem.

DETAIL, SANSOME STREET ENTRANCE, STOCK EXCHANGE, SAN FRANCISCO

Rendering by Michael Goodman

PERSPECTIVE, STOCK EXCHANGE, SAN FRANCISCO

MILLER AND PFLUEGER, ARCHITECTS

Photo by Moulin

Lindgren & Swinerton, Inc., Builders

STOCK EXCHANGE BUILDING, SAN FRANCISCO

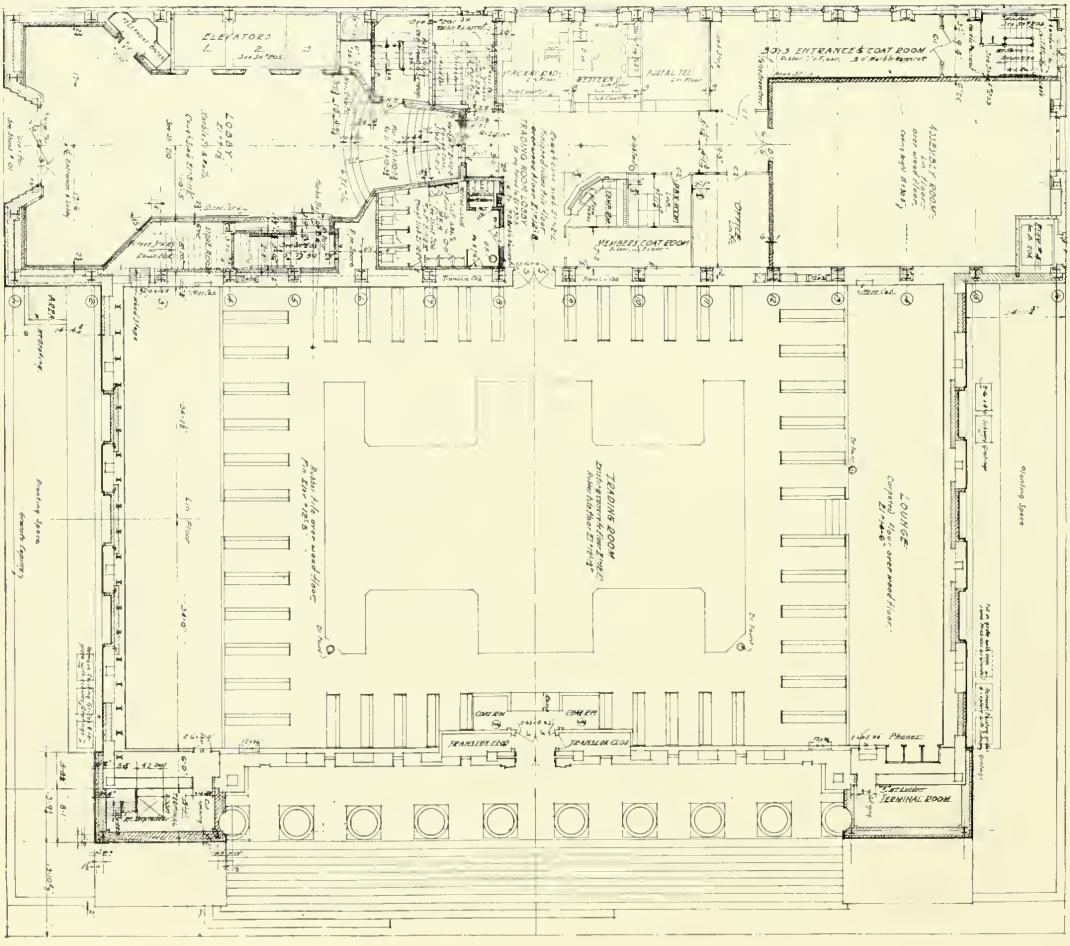
MILLER AND PFLUEGER, ARCHITECTS

Conquest of the Land

Conquest of the Sea

The Building Industry

MEDALLIONS BY ROBERT STACKPOLE ON PINE AND SANSOME STREET PARAPETS, STOCK EXCHANGE
Miller and Pflueger, Architects



GROUND FLOOR PLAN, STOCK EXCHANGE, SAN FRANCISCO
Miller and Pflueger, Architects

Those ten Doric columns looked back to the temple glories of antiquity. Could they not, figuratively speaking, be made to front two ways, like an old image of Janus? Let them hark to the past, but let them also face the onrushing future with its amazing possibilities of progress. Thus that row of columns became at once background and forefront for what the architects determined to accomplish. As the plan took form the columns were blandly persuaded, without violence to their past, to enforce the symbolism of a building that serves the very practical needs of today and tomorrow.

The Stock Exchange Building consists of two elements—the trading room which occupies the entire area of the former Sub-Treasury, and a twelve story structure designed to house every executive and institutional activity of the organization. Aside from the colonnade nothing remains of the Sub-Treasury above the sidewalk level except parts of the east and west walls. In the basement the huge vault constructed by Uncle Sam for the housing of gold and silver remains intact.

The colonnade is of white California granite, and this fact dictated the investiture of the entire new building. Structurally of steel and reinforced concrete, its surfaces are classically white, yet its feeling is decidedly modern. Those arresting columns, lifted sturdily above the broad flight of steps on Pine Street, have caught the spirit of their new environment, and plainly utter the message of a concern that is one of the most powerful ramparts of San Francisco's financial preeminence. They are flanked by two great pylons, soon to be completed by placing of monolithic sculptures.

The modernistic note will be strongly sounded in these sculptures. It is from Pine Street that brokers enter the Exchange. They will not enter too quickly to grasp the import of the heroic sculptures, one representing the fruitfulness of Mother Earth and the other the inventive genius of Man. Two medallions on the parapet above the colonnade supplement these groups. This is all the work of Ralph Stackpole, a San Franciscan, who is as modernistic in sculpture as his colleagues, Miller & Pflueger, are in architecture. There has been an ideal blending of purpose in the collaboration, and profitable study may be made of the quiet strength wherewith two arts have learned to breath forth one soul.

On Sansome Street is the public entrance both to the trading room and to the office structure. The portal is of deep reveal surmounted by another Stackpole creation symbolizing the "progress of man," while the ceiling of the entrance carries still another Stackpole carving of an eagle with outstretched wings. It may be confidently predicted that as time goes on all this work will be found exerting an important influence upon Pacific Coast sculpture in architecture.

The twelve story unit of the building that looms broadly above the trading room on the Pine Street side, is comparatively narrow on Sansome Street. Both elevations of snowy white are pleasantly relieved by window openings, while excised ornament has been but sparingly used. There is a simple belt course above the tenth floor and the two top stories have an ornamental motif expressive of the Club purpose to which these floors are devoted, while at the same time recalling the colonnade on Pine Street. The parapet of the roof is perforated at intervals in a foliated design.

The ornamented doorway on Pine Street opens directly upon the trading room. This is an area of magnificent spaciousness — 122 by 68 feet from wall to wall and 45 feet from floor to ceiling—and equipped to the last minute of progress with the mechanical devices of a most complicated business. This room is not only fascinating as the arena of finance, but is actually breath-taking in its consummation of beauty. The glory of the room is diffused-like light from the ceiling. To quote from an authorized description:

"The ceiling is designed to meet the three requirements of decorative effect, acoustics and lighting. To accomplish these the architects devised a method of treatment never

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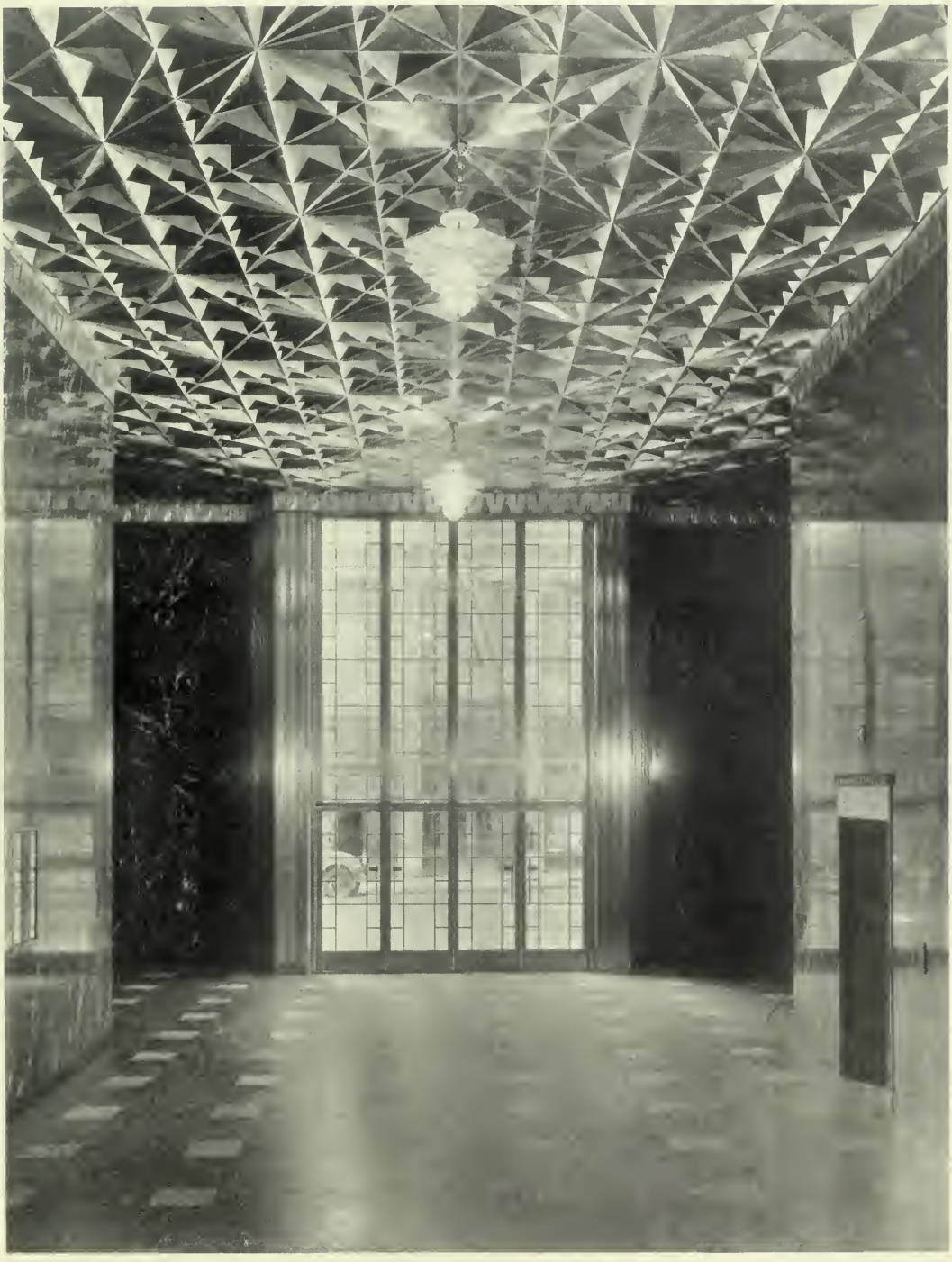
LOBBY, LOOKING TOWARD ENTRANCE TO TRADING ROOM, STOCK EXCHANGE,
MILLER AND PFLUEGER, ARCHITECTS



LOBBY, LOOKING TOWARD SANSOME STREET, STOCK EXCHANGE, SAN FRANCISCO
MILLER AND PFLUEGER, ARCHITECTS

Carved panels by Robert B. Howard

PANELS OVER WINDOWS IN TRADING ROOM, STOCK EXCHANGE
Miller and Pflueger, Architects

TRADING ROOM, STOCK EXCHANGE, SAN FRANCISCO
Miller and Pflueger, Architects

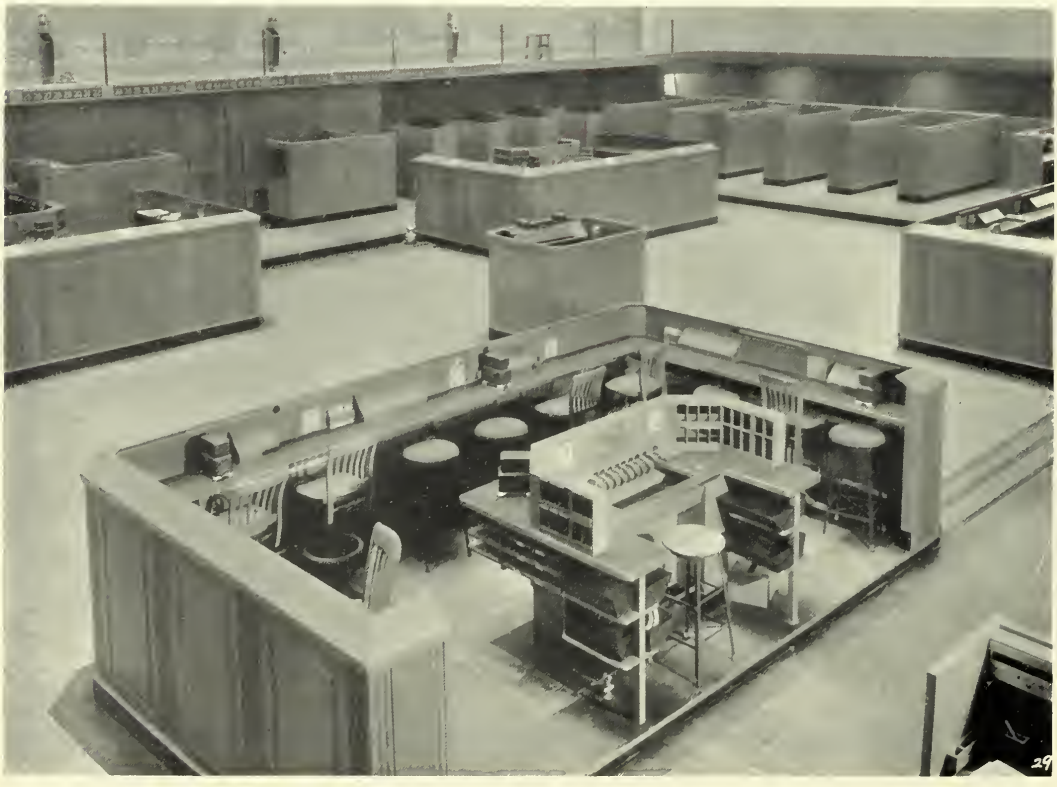
Photo by Moulin

DETAIL OF CEILING IN TRADING ROOM, STOCK EXCHANGE, SAN FRANCISCO

MILLER AND PFLUEGER, ARCHITECTS

before used — they constructed the ceiling of strips of silvered metal placed perpendicularly some 5 inches apart in parallel lines and in concentric circles and half circles. The effect from the floor is that of a huge canopy of lace-like pattern through which the day light is reflected by the shining metal strips or 'fins' and diffused into a soft radiance that penetrates the remotest corners. The metal 'fin' ceiling supports a glass subceiling above it and conceals the steel trusses of the skylight roof. When, because of weather conditions, daylight is insufficient, electric globes placed at intervals above the 'fin' ceiling will supply brilliant illumination." The acoustics of this room are said to be perfect.

The walls, of light gray plaster, carry, north and south, the great green quotation boards that tell the minute-to-minute history of American finance, while east and west they have tall windows surmounted by symbolic panels done by Robert Boardman Howard, a sculptor whose style is delightfully harmonious with that of Ralph Stackpole.



CLOSE UP OF TRADING FACILITY, STOCK EXCHANGE, SAN FRANCISCO

Miller and Pflueger, Architects

The public lobby of the building, entered from Sansome Street, has walls of dark red Levanto marble, and a ceiling richly ornamented in gold. This lobby gives access to the trading room, the visitors' gallery and by three elevators to the twelve story office unit of the Exchange. These floors house the executive offices, the personnel department, and all the administrative functions of the Exchange, together

with a combination auditorium and gymnasium, classrooms for the educational department of the Stock Exchange Institute, and rest and recreation facilities. The governing board and officials of the Exchange have their offices on the ninth floor. The board room is of dignified beauty, paneled to the beamed ceiling in walnut, with a fire

AUDITORIUM, STOCK EXCHANGE BUILDING, SAN FRANCISCO
Miller and Pflueger, Architects

place at one end. Over this a mural will be placed; meanwhile the only ornament is a carved door, the work of Robert Boardman Howard. There is in this unit of the building ample room for expansion as the business and membership of the Exchange grow with the growth of the city.

The wise men who authorized the erection of this great building were mindful of the appeal that resides not only in artistic but in natural beauty. Along the Sansome Street front the building was generously set back to provide space for planting, and the young trees that spread their foliage against the white chasity of the wall must quicken the heart of every sympathetic passerby. They have builded well, these wise men of the Stock Exchange — they are promoting high standards of esthetics as well as of "commercial honor and integrity."

EDITOR'S NOTE—Advent of the firm of Miller and Pflueger into the Stock Exchange picture came about as a result of their winning a competition for a building on the site of the old Exchange. After the competition, which was participated in by six selected architectural firms, the Exchange bought the Sub-treasury Building at Pine and Sansome Streets out of which the present home of the Exchange was developed.

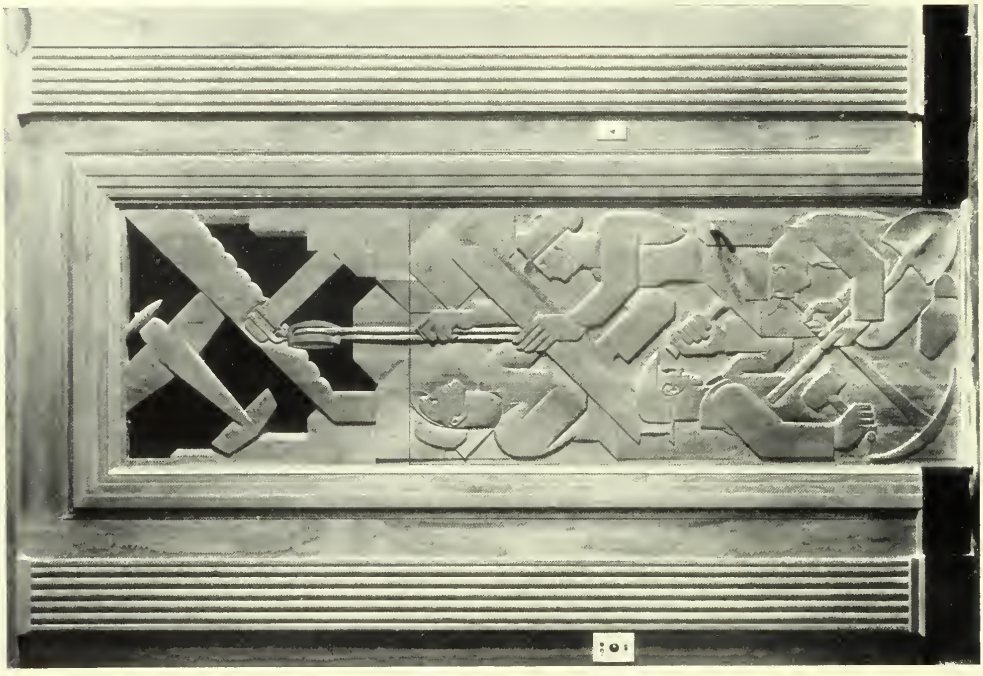
EXECUTIVE CORRIDOR, NINTH FLOOR, STOCK EXCHANGE, SAN FRANCISCO
MILLER AND PFLUEGER, ARCHITECTS

Governing Board Room, Stock Exchange Building, San Francisco

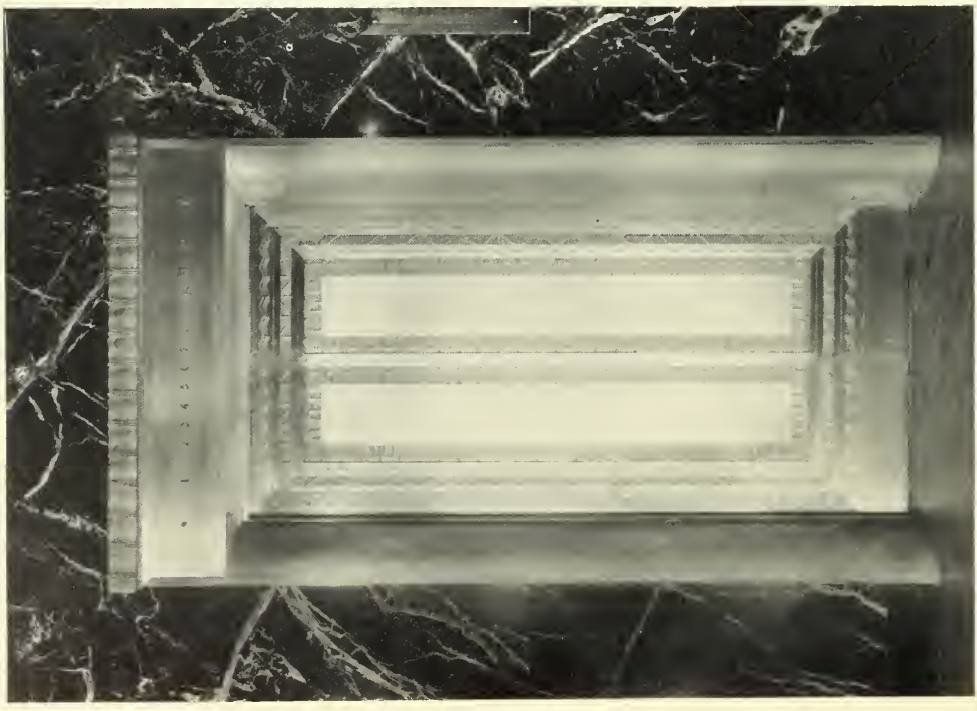
Miller and Pflueger, Architects

Office of Assistant to the President, Stock Exchange Building, San Francisco

Miller and Pflueger, Architects



CARVED DOOR IN BOARD OF GOVERNORS' ROOM



DETAIL OF ELEVATOR DOOR, STOCK EXCHANGE, SAN FRANCISCO

Photo by Morton & Co.

SAN FRANCISCO CIVIC CENTER

City Hall on left; State Building (center); Library (right); Wm. Taylor Hotel (extreme right)

HOTEL AND CHURCH A WELL SOLVED PROBLEM

By Fred'k. W. Jones

"WE would like to have a beautiful church in the Metropolitan area of San Francisco but the economic conditions make such an ambitious undertaking prohibitive."

Thus we find that more than one religious organization has been obliged to forego its cherished plans and content itself with a more modest building program in a less expensive neighborhood.

It remained for the Temple Methodist Church, however, to overcome the financial obstacle and to evolve a scheme that would not only give San Francisco a downtown church but would add one more high class hotel to its already enviable string of splendid hostelries. By combining church and hotel under one roof the prohibitive costs of a central location were overcome and the hotel, by sharing in the expense, made it possible for the church to realize its cherished dreams. Through the clever planning of Lewis P. Hobart, the Hotel William Taylor and Methodist Temple are a reality.

A twenty-eight story hotel and a great religious temple all in one, yet distinctly apart, here is a building that has no duplicate except in two other great Metropolitan centers—New York City and Chicago.

The building has been thoughtfully designed in the modern Gothic. Faced with light colored Richmond brick, with trim of terra cotta, it is at once a building of beauty and dignity; modern but not distressingly so. The upper stories of the tower, which dominate the mass, are arranged into suites for permanent guests, the rooms commanding a splendid view of the city and adjacent country. The regular hotel

Photo by Ralph Young Studios *T. Ronneberg, Structural Engineer*

WILLIAM TAYLOR HOTEL AND METHODIST TEMPLE, SAN FRANCISCO

LEWIS P. HOBART, ARCHITECT

Photo by Ralph Young Studios

WILLIAM TAYLOR HOTEL, LOOKING NORTH, SAN FRANCISCO

LEWIS P. HOBART, ARCHITECT

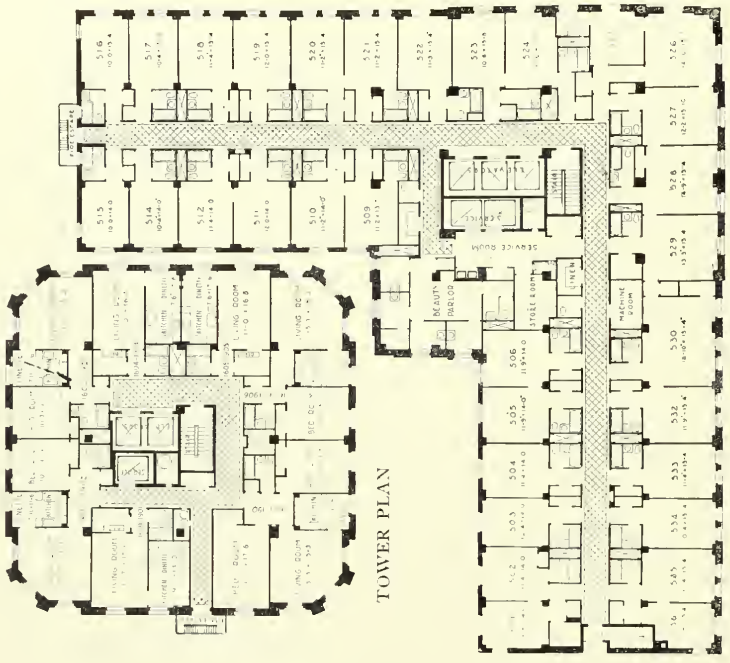
Photo by Ralph Young Studios

WILLIAM TAYLOR HOTEL FROM SEVENTH STREET, SAN FRANCISCO

LEWIS P. HOBART, ARCHITECT

VERTICAL VIEW, WILLIAM TAYLOR HOTEL AND METHODIST TEMPLE

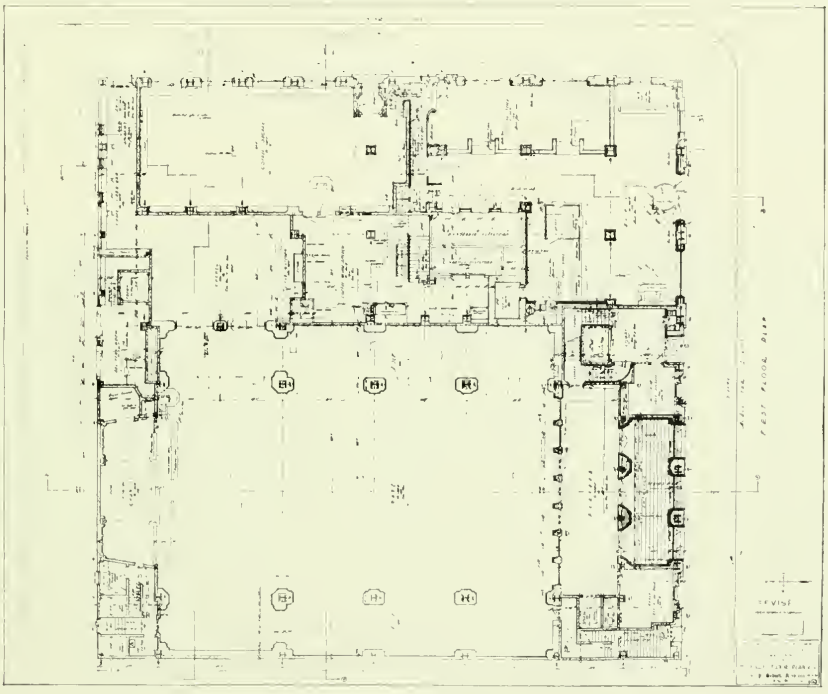
LEWIS P. HOBART, ARCHITECT

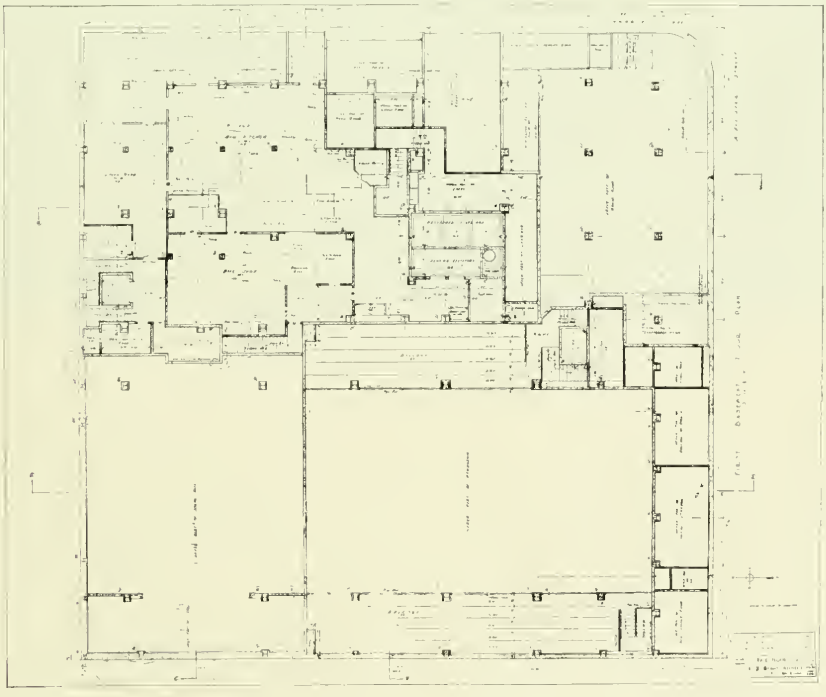


TOWER PLAN

TYPICAL PLAN, WILLIAM TAYLOR HOTEL
Lewis P. Hobart, Architect

CORNER OF COFFEE SHOP, WILLIAM TAYLOR HOTEL
Lewis P. Hobart, Architect





PLANS, WILLIAM TAYLOR HOTEL AND METHODIST TEMPLE, SAN FRANCISCO
LEWIS P. HOBART, ARCHITECT

guest rooms are on the fifth to the fourteenth floors.

For either church or hotel purposes the location — McAllister and Leavenworth Streets—is ideal. Street car connections make access easy. Parking facilities are most convenient. Only a block from Market Street and the same distance from the Civic Center, the situation offers everything that hotel and church would need.

LOBBY, WILLIAM TAYLOR HOTEL, SAN FRANCISCO

Lewis P. Hobart, Architect

While the exterior elevation and finish are masterly in treatment and awaken admiration as the dignified pile rears its outlines against the sky, it is in the interior planning and arrangement that the most consummate skill has been shown—always bearing in mind the dual nature of the building and the fact that two such different purposes must be served. The church section must express dignity, reverence and inspiration. The hotel must bespeak comfort, cordiality and good cheer. Skillful technical designing, inspired by good judgment, worked out the bi-fold plan to give perfect freedom and individuality to each factor.

The accommodation of conventions and other large public gatherings has been especially considered in the plans for the William Taylor. Two auditoriums down

stairs seat five hundred and four hundred respectively; on the fourth floor are private banquet rooms and on the third floor are assembly and committee suites.

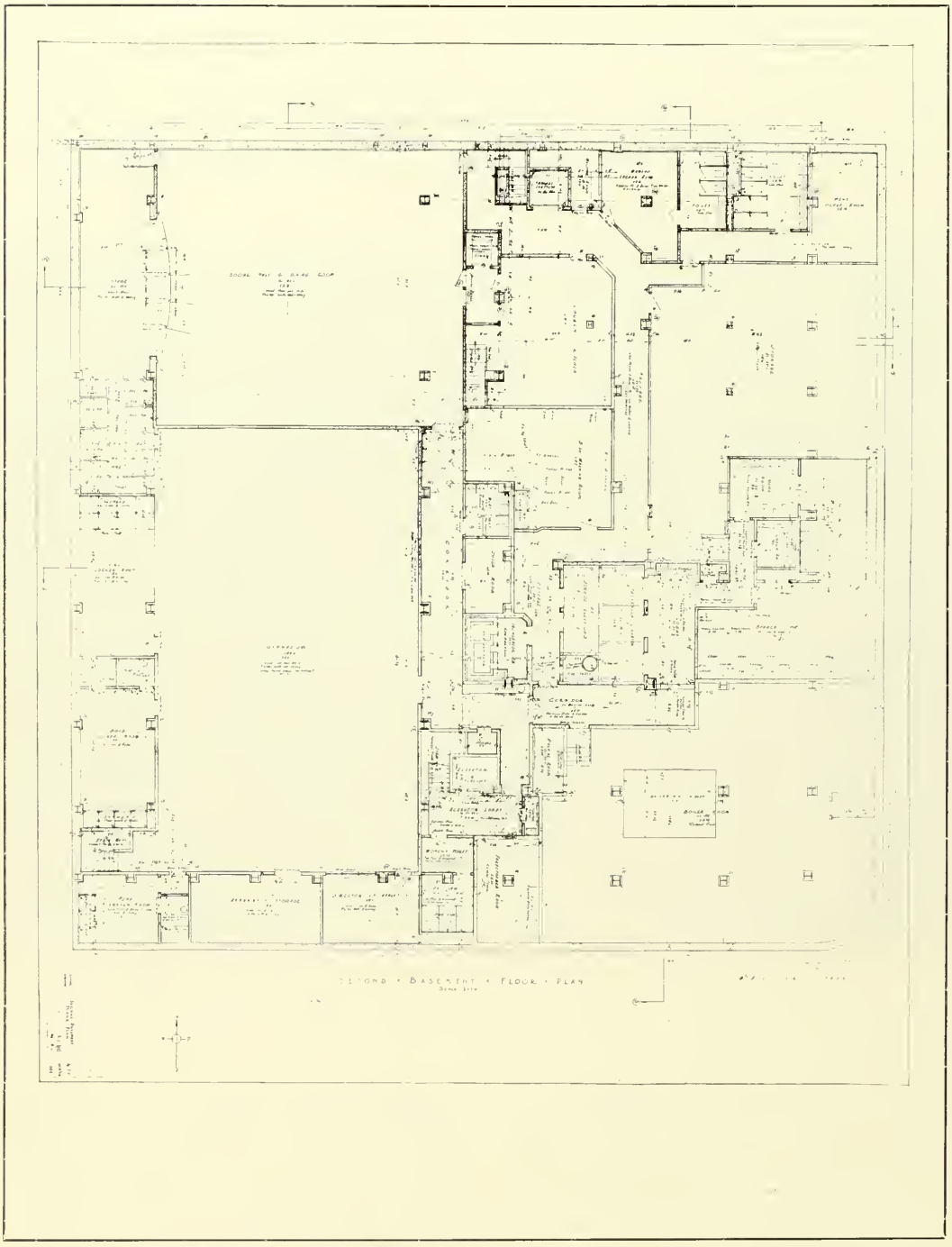
The main dining room, with a decorated ceiling and side panels, occupies the Leavenworth Street side of the second floor.

On the ground floor of the Leavenworth Street side, is a spacious coffee shop with finish of antique wood, richly panelled. The lobby is finished in pink, with ornamental ceiling, and has one section elevated as a lounge. The mezzanine is conveniently located with regard to dining room and lobby.

In the church unit, four stories high, over which one wing of the building is carried on steel girders, the section devoted to church purposes is planned and finished in a general style of modified Gothic. The church auditorium proper is impressive in its restrained simplicity. On the Leavenworth Street side of the building is a small chapel to be used for church occasions which do not require the large auditorium. The main entrance of the Temple, entirely removed from the sections devoted to the purposes of the William Taylor Hotel, is on the McAllister Street side, with imposing triple doors in Gothic lines.

DINING ROOM, WILLIAM TAYLOR HOTEL, SAN FRANCISCO

Lewis P. Hobart, Architect



SECOND BASEMENT PLAN, WM. TAYLOR HOTEL AND METHODIST TEMPLE

LEWIS P. HOBART, ARCHITECT

Photo by Morton

LOBBY, WILLIAM TAYLOR HOTEL, SAN FRANCISCO

LEWIS P. HOBART, ARCHITECT

EFFECT OF SEATING ON THEATER ACOUSTICS

By W. Keith Friend

UNTIL recent years, the subject of architectural acoustics has been surrounded by a veil of mystery. The late Professor Wallace C. Sabine of Harvard University, however, starting with his classic investigations in the Fogg Art Museum in 1895, brought light to the subject. He proved that many of the old methods of supposed acoustical correction were without foundation. The idea of stretching wires in an auditorium he showed to be of no benefit. He also disproved the theory that the dimensions of a room should bear a definite mathematical relationship to each other, such as a ratio of 1:1:2 or 2:3:4. As a result of his intensive research, he placed the subject on a firm mathematical basis so that we can now accurately compute the acoustical properties of a room even before it is built, or prescribe its correction after it is built.

The acoustical conditions surrounding a talking movie in a theater can be no better than the acoustics of the room itself. By faulty acoustics in the room, the best talkie may sound poor; also, any recorded defects in the talkie, due to improper studio conditions, are reproduced and show an additive effect upon the auditors. This discussion will be limited to the acoustics of the room alone. It is assumed that reproduction, as such, is satisfactory.

The usual acoustical defects in a theater are — first, improper distribution of the sound energy in the room and second, excessive reverberation, which will be defined later.

There are several things that may cause improper distribution of the sound energy in a room. First to be considered are such defects as echo, dead spots and sound foci. Echoes arise by regular reflections of sharp quick sounds from hard smooth walls, ceilings or proscenium arches of considerable area. There is a lapse of time before an echo is heard, which is due to the fact that the reflected sound has traveled a longer path than the direct sound. In the case of speech, this difference in time may cause much disturbance and confusion to the listeners. Due to the more continuous nature and blending qualities of music, an audience is less disturbed by echoes when listening to this form of sound than when listening to speech.

Dead spots and sound foci are produced as a result of concentrated echo producing conditions. Curved walls or ceilings are often of such a nature as to focus or concentrate sound energy directed upon them, to a central point. This is undesirable. Sound travels through the air in spherical waves of alternate compressions and rarefactions. It may so happen that a compression of the direct sound wave, coming from the sound source and a rarefaction of the reflected wave meet at the ear at the same time and thus tend to nullify each other, causing a

lessening of intensity. If the reflected sound is retarded a little more, it may happen that two compressions or two rarefactions coincide, thus tending to reinforce each other, producing unusually loud sound. This is termed interference. It is impossible to avoid distortions of the original sound in a room due to interference because of the infinite paths of reflection. The distribution of the intensity of a steady sound in a room is called the interference pattern. Sabine showed that there were pronounced maxima and minima of sound intensity throughout the entire interference pattern due to the form of waves as pointed out above. This interference pattern, he showed, shifts with each change of intensity or pitch of sound. Unless there is good distribution of the sound energy, it can be easily visualized how pronounced maxima and minima, shifting with each slight change of sound from the sound source, would cause undue modulation of the original sound with consequent poor hearing conditions.

The most usual causes of poor distribution are hard curved walls and ceilings. Floors should be sloped so that each auditor is well located in the direct path of sound; balconies should be arranged so that the openings at the front between floors are adequate for the entrance of sufficient sound energy to the auditors. Domes have been generally condemned but there are conditions under which they can be used with fair results. In general, if curved surfaces are used, they should have a radius of curvature, either less than half or more than twice the ceiling height, and should be covered with a sound absorbing material of high efficiency.

The second acoustical trouble mentioned was that of excessive reverberation. Excessive reverberation is the cause of probably 90% of the acoustical troubles in the auditoriums and theaters of today. When a sound is produced in a room and spreads out, striking the interior surfaces, not all of it is reflected but a portion is absorbed at each impact. The amount of the sound energy absorbed depends upon the nature of the reflecting surfaces. The sound, however, continues to reflect back and forth between the walls, ceilings, chairs, floor, etc., until its intensity is so reduced that it becomes inaudible. Owing to the high speed of sound, which under ordinary conditions, is around 1120 ft. per second, or about that of a rifle bullet, there may be many of these reflections in the course of a single second in a theater or auditorium of ordinary size. The effect is to prolong the sound in a room after the actual source of sound has ceased. This accumulation of continued reflections is termed "reverberation." If the reverberation is excessive, the trail of sound, following one syllable of speech or tone of music, will not die out before succeeding syllables or notes are uttered. The result is a confusion of sounds in which nothing appears clear and distinct, and audition is difficult and tiresome. In this discussion, it has been assumed that the reverberation period of the room in question is excessive and needs to be reduced in order to give good hearing conditions. This is always the case in ordinary theatres and auditoriums.

There is a time to which or below which the reverberation period for each particular room should be reduced in order to have most satisfactory hearing conditions. This maximum time allowance for the continued reflection of the sound for good hearing is termed the optimum or satisfactory reverberation period. The remedy for an excessive reverberation period is found in placing the necessary amount of sound absorbing materials in the room such as absorbent wall coverings, heavy drapes, carpets and upholstered seating, to make the sound stop reflecting or, in other words, become inaudible in the desired or optimum length of time.

Sabine concluded that the period of reverberation in a room is almost independent of the location of the sound absorbing materials and of the source of sound. Wallace Waterfall, however, has shown that Sabine was discreet in qualifying this statement, by pointing out cases where the reflections of sound back and forth between non-absorbent parallel surfaces continues after the normal reverberation of the room. These continued reflections, Waterfall pointed out, appear as a localized "flutter"

and may or may not be disturbing, depending upon its location relative to the auditors. In these cases, additional absorbtion in the "normal" parts of the house does not reduce the flutter proportionately. These cases are not frequently found.

Professor F. R. Watson of the University of Illinois, in some recent experiments, has shown that musicians particularly enjoy reflecting surfaces about them to intensify the sound. This probably, Watson states, also applies to the speakers as they usually dislike to stand directly in front of absorbent stage curtains. The important point of his findings, however, is that listeners, on the other hand, seem to want to be near absorptive material. In general concordance with Sabine's and Watson's conclusions, it is possible to please both performers and audience and, at the same time, maintain the same period of reverberation in the whole room by placing the acoustical material near the audience. This can be very conveniently and efficiently done by installing the right type of theater chairs. In the smaller theaters, all the necessary acoustical treatment can usually be obtained by installing the proper chair. In the larger theaters, this is not the case. The reason for this will be pointed out later.

Professor F. R. Watson has worked out a set of optimum periods of reverberation for good acoustics in rooms for various room volumes. This table is given below:

OPTIMUM PERIODS OF REVERBERATION

	Seconds
Below 7,000 cubic feet	1.0
7,000 to 20,000	1.1
20,000 to 45,000	1.2
45,000 to 85,000	1.3
85,000 to 145,000	1.4
145,000 to 225,000	1.5
225,000 to 330,000	1.6
330,000 to 465,000	1.7
465,000 to 630,000	1.8
630,000 to 835,000	1.9
835,000 to 1,100,000	2.0

The optimum reverberation period for the room in question can be taken from this chart. If this new value is substituted in the equation, a new and larger value will be obtained for "A" and the difference between these two values for the absorption will give the necessary amount which must be placed in the room to give the desired optimum conditions.

The second method, in arriving at the amount of treatment necessary is first to compute the absorption already in the room. Professor Sabine and others have worked out the coefficients of absorption for various building materials, furnishings, etc. By computing the various areas of materials of different kinds and multiplying them by their corresponding coefficients, the absorption for the various interior surfaces and furnishings of a room are found, the summation of which gives the total absorption in the room. Having computed the volume and having found the absorption, the existing reverberation time can be computed. Then, as in the first method outlined, the desired optimum time can be taken from the chart and the suitable computations made to determine the additional absorption necessary in the room.

A word might be said about the optimum values given in the adjacent table. These values are somewhat lower than the values for similar volumes computed by other investigators. Professor Watson, however, has recently gone into this matter very thoroughly from the standpoint of the needs of the talking movie. In view of his findings, the reverberation times given by him have been generally adopted for theater and auditorium corrections.

It was pointed out earlier that, in general, the reverberation period in a room is independent of the location of the sound absorbing material, providing the other conditions necessary were fulfilled. There is, however, an advantage in placing absorption in the theater chairs for reasons which will be pointed out further. Thus far, nothing has been said about the size of audience for which optimum conditions should be obtained. Human beings are high absorbers of sound energy and, for this reason, the

reverberation period in a room decreases rapidly with increasing audience. In view of this, it is necessary to choose an audience for which optimum conditions are to be obtained. Correction is usually given which will produce optimum conditions somewhere between one third and one half maximum audience.

The ideal theater, acoustically, would have an unvarying reverberation period; that is, the optimum would exist regardless of the size of audience. Upholstered seating of the right type tends toward this constant reverberation time because the absorption built into the theater chair is practically all cancelled when the chair is occupied, the absorption of the chair being replaced by the absorption of the auditor occupying the chair. This prevents the absorption from piling up rapidly with increasing audience and thus tends to maintain a more balanced and uniform sound condition, independent of the size of the audience. It will be readily seen that this treatment has an advantage over wall treatment. In the case of wall treatment, there can be no cancellation of its absorption with increasing audience and there is consequently a rapid accumulation of absorption. Sabine found that the average absorption of an auditor seated is 4.7 units, or, in other words, equivalent to 4.7 sq. ft. of open window. The ideal chair, acoustically, would possess 4.7 units of absorption unoccupied and occupied. This requirement has been very nearly fulfilled and with the latest type chairs, there is very l i t t l e additional absorption obtained through increasing audience. The proper chair, acoustically, is scientifically designed with due consideration given to its effect on sound when both occupied and unoccupied. In addition, it has the correct shape and distribution of materials and possesses the proper amount of porosity and compressibility. It is a fortunate coincidence that these last two features are both obtained through the use of correct upholstering materials, which give added comfort and luxury as well as acoustical properties.

The new Chicago Civic Opera House is probably the most perfect house, acoustically, of its kind. The acoustics of this house were computed before it was built and many artists, as well as engineers, awaited the opening night, which was Nov. 4th, 1929, to see if this great house was to be a success acoustically. The results were very gratifying. The house was designed to have practically the optimum reverberation period when empty in order that artists might have the same conditions acoustically while rehearsing that they would have during performances. This is a very great help to artists, not only from a temperamental standpoint, but because it removes the necessity of having to change their expression and volume with changing audience size in order to get what they deem proper reaction to themselves. This house uses a special chair designed to meet the acoustical needs and the reverberation period, because of the cancellation of the absorption in the chair by the auditor, does not change noticeably from no audience to maximum audience conditions.

ABOUT TURKEY

by

Martin A. Charles M.F.A.

STREET IN OLD ADRIANOPLE

LET not the student of architecture, whom a kind fate places in Stamboul for a lengthy stay, regret his lot. He will find ample material for his study and his delight nor will many months suffice to exhaust the resources of that fascinating city. There he will find mosques and churches, palaces and castles, fortifications and cisterns, mosaics and faience, museums, tombs and many other lesser structures of great interest. But this is not all, for he will at the same time be living in one of the most beautifully situated of all cities, where daily he can be refreshed and astonished by the incredible blueness of the busy Bosphorus or the placid Maramora. Not to mention that the silhouette of Stamboul at sunset, seen from across the Golden Horn, with its skyline punctured by the pencil minarets and pyramided domes of the great mosques, is as romantic a sight as ever inspired a stage set. Let us approach more closely this city where genuine picturesqueness has not yet entirely yielded to progress.

Aja Sofia, still today called by the name it bore when a church and the glory of the Eastern empire, surely needs no mention here. No visitor, even an unfortunate Mediterranean cruiser brought to Stamboul for thirty-six cold, snowy, February hours by an unfeeling schedule, will miss that great structure; still less the follower of architecture. But Aja Sofia, no more than wisdom herself, is not to be be grasped in one visit or two. One must go again and again until even the pestering guides who haunt the courtyard know you and have given you up as a hopeless case, finally discouraged by your impassivity or your command of international swearing. And after each visit to the mosque there is the charming cafe in the outer court where to sip coffee and meditate on the fascinating structure just visited. The cafedji, long since accustomed to all forms of insanity, will serve you simultaneously with two or three tiny cups of excellent Turkish coffee which Western impatience may demand. With every visit Aja Sofia leaves a deeper impression of its greatness. There is scarcely a limit to what it has

to teach of composition with space. Stamboul, moreover, contains further illustrations of the same problems that the builders of Aja Sofia faced. There are six great imperial mosques from that of Sultan Bayezid in 1500 to Fatih in 1763 (Bayezid, Chahzade, Sultan Sulleman, Sultan Ahmed, Yeni Valide, and Fatih) which are inspired by Aja Sofia and present a unique opportunity of studying the problem of enclosed space dominated by a single great dome. I know of nowhere else in one city that such a comparative series may be found of seven structures of the same program, general similarity of solution and comparable magnitude. Much benefit may be derived from the study of a parallel like this, needless to say. With the imperial mosques, however, the study of the mosques of Stamboul is just begun. There are dozens of others of architectural interest, illustrating, as often by failure as by success, problems of dome, vault, arch, quinch, pendentive—to mention a few. In general the mosques are more interesting as examples of interior space composition than they are from the exterior. Outside the superposed domes pile up into a pyramidal mass in a fashion that is often more picturesque than architectural. This effect is always accompanied and frequently enhanced by the fanciful punctuation of the minarets. The photograph of Fatih gives an idea of the interesting massing that frequently results from their domical systems.

MINARET IN ADRIANOPLE, TURKEY

Most of the mosques are accompanied by their medressehs (Koran schools), their hammans, and the larger ones by their hospitals and insane asylums. There really are of course, Turkish baths in Turkey, hundreds of them, and they are among the most interesting specimens of the architecture. One finds in them, for example, domed chambers of fine proportion, sometimes intricately adorned by the so-called Turkish triangle and stalactites; or occasionally domed cruciform arrangements of great beauty. As a class the baths are well worthy of study. In many instances the simplicity of the exterior mass is more pleasing than that of the most complicated mosques. The medressehs, too, are worth looking into. Many of them are now abandoned, others filled with squatting refugee families. One, at least, serves as a sporting club, the trapezes and horses looking strangely out of place in their arcaded and domed surroundings. They are generally of one story, a series of vaulted rooms around a court, fronted by an arcade, each bay of which is crowned with a little dome. Search among them is rewarded by the discovery every now and then of a nicely proportioned arcade or a courtyard of great charm. More interesting than the medressehs are the imarets (charity soup kitchens) and the insane asylums.

In arrangement they are less uniform and often of a great refinement of design. It must be added that an essential simplicity of plan is common to the various types of buildings I have just mentioned.

Works of Sinan, the great architect of the Turks, are as plentiful in Stamboul as those of Wren in London. More than one hundred buildings throughout Turkey are ascribed to him. Many days may be spent following up his jobs in the former capital alone. One of the striking observations of such investigation is the uneven quality of his work. He must have had a huge office for the mid-sixteenth century and perhaps experienced difficulty in supervising everything that went out. In Stamboul his best known monument is Suliemaniyeh. Chahzade is another important one. To me, however, the finest is the Imaret of Hasseki Hurrem. In balance, proportion and scale, it is exquisite. Until a few years ago it performed its function as charity soup kitchen, but now it lies abandoned. Already the domes have been stripped of their lead and disintegration is well under way. It is a shame that this splendid monument will soon exist no longer. It forms a part of a group of hospital, school and asylum, all of similar design and now used only as shelter by poor families.

Then of course, there are all the Byzantine monuments (among which Aja Sofia should of course be included except for the convenience of mentioning it in connection with the great mosques) which are of at least equal interest to the Islamic structures. Few churches are now in good condition, centuries of use as mosques have naturally wrought great changes. But there are many of them and in nearly every one enough evidence of the original condition survives to make them of interest to the student of architecture. After Aja Sofia I would place Kutchuk Aja Sofia (Sts. Sergius and Bacchus) that close relative of San Vitale, next in technical interest and in success as space enclosure as well. Of a different and later type is the Parecclesion of St. Mary Pammakaristos, certainly one of the best preserved and most delightful of the surviving churches of old Byzantium. The photograph shows the eastern end of this church with its three apses. Particularly to be noticed is the "modernistic" character of the brick cornices. The palace, now known as Tekfur Serai, merits study for the brickwork in its facade. And of course mention must be made of the vast cisterns, Yeri Batan Serai and Bin Bir Derek, best known among them, with vistas through a forest of columns that are as dramatic as might well be imagined. The fortress of Yedi Kule and its Ottoman counterpart of Roumeli

BASE OF MINARET

FATIH, THE MOSQUE OF MOHMED, II

SAINT MARY PAMMAKARISTOS, STAMBOUL

Hissar are impressive for sheer mass. Finally, enclosing most of these monuments are the mighty walls of Byzantium, still today largely intact. The rythm of the great towers as they succeed one another far flung across the undulating hills is a striking sight.

So far I have mentioned monuments of architecture in the narrowest sense, the actual structures themselves. But there is of course much else of interest in Stamboul. Beautiful faience is common there; in Rustam Pasha, in Sultan Ahmed, in many another structure it abounds. Few mosaics are finer than those in Kariyeh Djami, known in the days of the Eastern Empire as St. Saviour in Chora. The collections contained in the National Museum are of great importance, but too well known to need further mention, as is that in the Evkaf Museum. Perhaps the most fascinating of all is the old palace of the Sultans, Top Kapu Serai where pavilions done in Levantine Rococo jostle gems like Bagdad Kiosk. But the list grows long and I make no pretense at being complete. I merely wish to suggest the wealth of interest that lies in Stamboul.

By no means does Stamboul hold all the material for the student of architecture, however. All Turkey, and Asia Minor in particular which was for centuries in the center of the civilized world, is crammed with reminders of a glorious past. Many places in the interior are easily accessible by train. Service, especially on the lines of the state, is good. The trains run on time and proceed with a calm deliberation that allows one to study thoroughly the country traversed. Where the railway does not go, a hired automobile can be obtained. The car, probably of familiar American make, will proceed with less deliberation, but no matter, time proverbially means little in the East. Not that I intend to waste it here in a too detailed account of places of interest. Just a few of the more important ones divided, according to a personal weakness for comfort, into those with possible hotels and those with less possible ones.

Cities with hotels in our conception of the word are two former Ottoman capitals, Brussa and Adrianople, and the present capital Angora. The latter of course has the finest hotel in the Republic, but architecturally the town is Western and modern, therefore of less particular interest to the modern Westerner. Brussa, on the other hand, is the oldest of the Ottoman cities (although the town itself is far older than they) and one of the most beautiful. It contains many fine monuments of the early days when the successors of Othman were carving out an empire at the expense of all their neighbors. There is a whole series of imperial tombs which are decorated inside with splendid faience, access to which is at present unfortunately denied by the government. Brussa has two fine old baths, Eski and Yeni Kaplidja, renowned for the medicinal qualities of their waters and with interiors of considerable architectural interest. The best known structure is, of course, the "Green Mosque," Yeschil Djami and its companion tomb, Yeschil Turbeh, so-called because of the quantities of Turquoise blue tile used. The latter, the tomb, is an octagonal construction, the exterior entirely clothed in light blue tile with striking effect. The entrance niche and the interior are magnificent examples of faience work. There is much fine tile, too, in the mosque, despite the havoc wrought by a nineteenth century restoration. The effect of the interior is of great richness. The photograph from Brussa shows a view in the court of Pirinj Han, one of those old hotel-warehouse-office buildings, noteworthy for quality of masonry workmanship, in which Turkey abounds. In the background appears the slope of Mount Olympus.

Equally fascinating a city is Adrianople which succeeded Brussa as the capital. The monuments there are larger, more imposing, as befitting an empire that is beginning to make its way in the world. Greatest of them all, the mosque Selimiyeh dominates the town. It was built by Sinan for

the Sultan Selim in commemoration of the capture of Cyprus and is the most original, if not the greatest, example of Turkish architecture. The imposing interior is almost entirely covered by a single drumless dome of almost the exact size of that in Aja Sofia, some one hundred and odd feet in diameter. But the exterior is more striking still, its harmonious dome, pinned down at the corners by four minarets, has a quality of style unsurpassed by any structure in the country. Adrianople is the place to study the minaret, for they abound in greater interest and variety than anywhere else that the Ottoman type is used. The photograph shows a particularly fine spiral fluted minaret from the Mosque Utch Sherefli (named from another of its minarets with three balconies). The masonry work is extremely well done. Two contrasting colors of stone are used, in general a golden brown with the half-rounds of the spiral and other trim set against it in a red stone. The detail of the base of this minaret is so interesting that I give a special picture of it. How strangely "modernistic" it is in character. The Piranesi-like street scene is a view in the old town, flanked on one side by one of the afore-mentioned hans and on the other by a besestan or market.

Not yet, however, having merely considered all the capitals, present and past, is Turkey exhausted. For one who will chance the extraordinary accommodations of the "Palas" hotels of the interior there is a vast amount of interesting material to be studied. In central Anatolia the monuments of Seljuk Turks are a storehouse of exquisite decoration, in carved stone, in faience, in brickwork, in brick and tile mosaic. There are lessons in the use of color and ornament of a strikingly "modernistic" appearance. Then there are the great hans, some of them with halls like cathedral naves. These, to mention only a few. Finally, a paradise for the classic scholar, is Southwestern Anatolia. The seven cities of the Bible, Smyrna, Sardis, Philadelphia and the rest are there. Such places as Ephesus, Pergamon, Miletus and Halicarnassus. The very names bring to mind the picture of a splendid civilization. Even today after so many centuries of silting up, of earthquakes, of war, of shameless quarrying the remains of such a place as Ephesus will stagger by their size and extent the mind of one accustomed to the skyline of New York. Even the meanest Turkish village there will have its rubble walls interlarded with classic fragments; an Ionic cap here, a length of egg-and-dart there. But it is useless to continue. The list already grows too long. I am not attempting an architectural guide book to Asia Minor. I shall be well content if my words suggest that Turkey holds much of interest to the student of architecture, not all of which has yet received the attention it deserves.

PIRINJ HAN, BRUSSA

PROGRESS IN CITY PLANNING

By Charles H. Cheney

MORE progress in laying the foundations of sound city and regional planning was made in 1929, than in perfecting the superstructure of our cities. With over 750 planning commissions reported in the country, and as many as 840 cities with some kind of building zone regulations in operation, the volume of planning work has become tremendous, even though the quality of most of that work is yet very inadequate and incomplete. But when we reflect that it is only a little over 13 years since zoning began generally to be applied and 20 years since the National Conference on City Planning was organized, it is evident that a distinct advance has been achieved.

Two hundred forty cities claim city plans in various stages of completion, but the remainder of the commissions are still planless. Pennsylvania and some other states report increasing local appropriations for city planning, but lack of funds is still the cause of inactivity on the part of most of these boards.

The country has entered a new era. This is a planning age, one that will brook no little plans, no tinkering, no dalliance with half-way measures. The emphasis today is no longer merely upon economic or social grounds. Esthetic considerations must be met. Beauty has become the watchword of business and industry and beautiful cities are demanded of our city planners.

America must build better cities. We are a rich nation but a tawdry one in appearance. Our station in civilization demands and requires a better dress. Our progress in education and culture insists upon a better environmental condition for our children and our children's children.

Our cities, their architecture and planting, are the chief measure of our civilization. Despite the falling off in building, during the past year something over four billion dollars in new structures was expended in cities and towns of this country. Yet it is estimated roughly that three billion dollars worth of these structures were so ugly, so badly planned, so inappropriately located or on such narrow or inconvenient streets as to have been a liability instead of an asset, almost from the day that they were completed. Building inspectors tell us that the number of plans which came to them designed by competent architects or designers were still approximately only about 10 to 15 per cent of the total number of new buildings erected, and that the proportion of good designs does not seem to be materially increasing. As this architecture that we leave behind us is what future generations will judge us by, America must act to ensure that in the future at least no more such tawdriness, ugliness, or lack of color shall be tolerated in new buildings. Man destroys the ugly buildings or ugly surroundings as fast as he can—only beautiful and attractive structures persist in the long run. This waste in careless, ugly, inappropriate structures is the greatest economic loss of our time and the hope of the future must lie in our city planning commissions, our architects and technically trained men.

Great Plans of 1929

A few really great plans were brought out during 1929. Most notable of these is the New York Regional Plan presented to the city last June after seven years of intensive study. Then there is that enormous

group of new public structures in Washington, on a scale befitting the National Capital, to go in the triangle between Pennsylvania Avenue and the Mall, and recently authorized by Congress at the urging of President Hoover and Secretary Mellon. The St. Louis riverfront development program, with its great plaza of buildings, is on a scale with the largest world projects. Meantime Chicago has been forging ahead with the enormous Lake front park system.

The year also sees Philadelphia at last authorized to have a city planning commission and to zone the city and give protection to real estate investments, to bring some order out of things as the other more forward looking cities of the country have been doing since the stupendous job of zoning New York was completed in 1916. Other great plans set underway during the year are those for the Chicago Exposition of 1933.

Ninteen Hundred Twenty-Nine will also be remembered as the year in which the first adequate school of city planning was set up as a graduate course at Harvard University through the aid of the Rockefeller Foundation. Prof. Henry V. Hubbard of the faculty of Landscape Architecture of the University was named first encumbent of the new Chas. D. Norton Chair of Regional Planning, and director of the new school.

Spaciousness in City Building

The demand for spaciousness in our city and regional plans is one of the most hopeful signs of the times. Harold S. Buttenheim, editor of *The American City Magazine* has been one of the most consistent and helpful advocates of this principle. Common sense relief of congestion and overcrowding goes hand in hand with it. The studies of Henry Wright, architect of New York, showing that better and more permanent incomes can be made for apartment houses covering only from 50 to 55 per cent of the lot than from those which cover 65 to 70 per cent or more because of the increased sunlight and air, form another contribution to the important data on this subject started by Andrew J. Thomas, architect, of New York City. The latter proved that u-shaped apartments which covered not more than 50 per cent of the lot were the most profitable and most sought after by permanent tenants. The social well being, the future stamina of our citizens requires that we give all families plenty of room, sunlight and air to breathe and that we do not allow them to congest too many under the same roof, rubbing elbows on the stairs, bringing about the looseness in living and morale which is so evident in the apartment house cities of Europe.

In outlying towns and the smaller cities of the country there are increasing numbers of zoning regulations that put a stop to this evil. City Planner Robert Whitten reports in the new Dallas, Texas, zoning ordinance a provision requiring one square foot of open space for each two square feet of floor area in one class of districts and the same in the Oyster Bay, Long Island zone ordinance. Under this rule a 3-story building can occupy not more than 40 per cent of the lot and a 6-story building not more than 25 per cent of the lot. Numerous small cities around New York and in New Jersey, California and other states have apartment house districts or zones permitting only 50 per cent of the lot to be covered and a number of them limit all apartment houses to 4 stories, some even to 3 stories maximum.

Most of the small suburbs around Chicago are now zoned with considerable portions of city area limited to single family dwellings. City Planner Harland Bartholomew reports that Winnetka, Wisconsin, has 95 per cent of its area limited to single family buildings, with remarkably generous area regulations, while Kenilworth near by permits no apartment houses except in the small commercial district and requires that every lot must be in excess of 12,000 square feet per family house.

Another notable step in zoning was the protection of Montecito, a high class suburb of Santa Barbara, California, by County zone ordinance which prevented drilling for oil. This is now being tested in the courts but should be sustained because other California communities have successfully prohibited this great blight.

Major Street Plans

Major traffic street plans are reported completed in 144 cities, according to the Civic Development Department of the United States Chamber of Commerce, and started in 64 cities. The Boston Major Street Plan by City Planner Robert Whitten is completed but not yet made public. The great major traffic plans of St. Louis, Detroit, Los Angeles and Chicago, are now being carried out with important new sections ordered built during the past year. Los Angeles has nearly $100,000,000 of proceedings completed or under way on the Major Street Plan adopted in 1924 and which will total finally something over $200,000,000.

The difficulty with major street plans is to establish future street lines so that new structures will not go up in the path of necessary openings and widenings. The splendid New York state law prohibits buildings where the official major street plan has been officially adopted by the city council. Schenectady has set the pace for the country by adoption of its complete plan. Several other states, including California, now provide methods for such adoption.

St. Louis continues to develop the most consistent and thorough city planning work of the country under the direction of Harland Bartholomew, city planner, and E. J. Russell, architect, chairman of the Commission, who have so faithfully and successfully carried the work on since its inception in 1916. The fundamental factors of this success in planning are (1) thoroughly complete and well prepared technical plans, (2) wide spread public understanding and support, and (3) sympathetic official cooperation in the execution of the plans. Additional units of the Major Street Plan were put forward during the past year and the great central riverfront development and civic center plans are spoken of elsewhere.

The smaller cities of the country, even the small towns, need major street plans and other comprehensive plans as badly as the big metropolitan areas. Everywhere the increased use of the automobile, demand for traffic relief, for airports, parks and new and enlarged business centers, is requiring enormous changes, particularly in the widening of streets laid out for a horse drawn era. Hence major street plans are everywhere causing the cutting down of great avenues of trees for street widenings and extensions. In many cases these tree cuttings are needless or avoidable. Our cities are being denuded of their fine old trees and shelters of greenery and thus become yearly uglier and more forbidding, as these very trees were the only saving grace to cover up the 90 per cent of bad design and poor architecture with which our municipalities are so carelessly filled. California now has a law authorizing replanting of trees in the same proceedings that undertakes the widening and improving of highways and the next few years must see much greater attention on the part of the public and city planners or this generation will long be known as the despoiling age.

Parks and Recreation

Parks, parkways and recreation areas now form a necessary part of the master plan of every city, county and region under the new California Planning Act of 1929. They have become increasingly so in plans of older states also during the past year. Westchester County, New York, undoubtedly has made the most remarkable recent contribution to the parkways and park systems of the country. The splendid work in Essex and Union Counties, New Jersey, and the metropolitan park systems of Boston, Cleveland, Chicago and other centers are still object lessons for the country.

Both small and large cities increasingly seem to appreciate provision of playgrounds for both children and adults with the centralization of children's playgrounds at schools. Adoption of the 10-25-40 standard, that is, ten acres for each elementary school, playground and park, about a mile apart in metropolitan areas; 25 acres for junior high schools and playfields about every 2 miles; and of 40 acres for senior high schools and junior colleges three miles apart; is spreading as evidenced by the recent published recreation report of Riverside, California, showing that city has recently acquired a number of sites of this size, as have Mil-

waukee, Fort Wayne and other eastern cities. Gary, Indiana, has a standard of 20 acres for every school site.

New Orleans reports over 5000 street trees, many of them live oaks, set out in the first quarter of 1929 and a program of adding 25,000 trees to the city streets in the next five years under direction of the Parking Commission. Los Angeles has at last appointed a city forester in charge of street trees but without appropriation and the city is sadly lacking still in public parks. However, a comprehensive report on parks, playgrounds and beaches for the Los Angeles Region is now on the press as a result of a two-year survey by Olmsted Brothers, landscape architects, and Harland Bartholomew, city planner.

Civic center plans were brought out during the year by Dayton, Ohio, Riverside, California, and a number of other cities and the scheme of grouping public buildings around a monumental plaza for the cumulative effect seems to have taken firm hold upon the public mind.

Riverside has also adopted a report establishing the esthetic objectives of the city as follows: (1) Plan for beauty in every item of the master plan or city plan. (2) Plan for color, because color can make or destroy even the best architecture; it can retrieve much of the worst. (3) Plan for individual character of the city. (4) Plan generously for the new flying age, where industry, housing, even business are certain to spread out over tremendous areas. (5) Plan for architectural control of all buildings, signs and physical appearances, both private and public. Enormous depreciation and waste result from the present unregulated system of building. (6) Plan to maintain the "town picture," because the community is entitled to preserve outward characteristics which develop as a result of its God-given natural beauty or of the conscious creations of man.

Definite architectural control is reported from a number of new places. Hollister, Mo., passes an ordinance declaring all buildings in future erected in the business district shall be of old English type architecture and that no other style of building shall be allowed. Wauwatosa, near Milwaukee, and several suburban towns of the Chicago region, under the leadership of City Planner Jacob L. Crane are employing various methods to scrutinize all new plans submitted for building permits to see that some standard of design is maintained. The splendid work of the Architects Advisory Council under Horace Peaslee, Chairman of the National Capital Committee of the A. I. A., in checking over all new applications for permits in the District of Columbia is a courageous piece of voluntary work which has produced some marked results. But the outstanding and most complete architectural control is still to be found in those communities that have been established by absolute deed restriction such as Roland Park, Guilford, Homeland District of Baltimore, Forest Hills, L. I., and Palos Verdes Estates in California. Here a permanent Art Jury, independent of any real estate project, composed of distinguished and competent architects, has veto power over the design and color of all new structures and stands guard to protect investors and home builders from the erection of carelessly designed and off-color structures.

Community Planning

The outstanding contribution in suburban planning for the year is undoubtedly at Radburn, New Jersey, advertised as "The New Town for the Motor Age" because the houses are all arranged for traffic safety in groups around cul-de-sac streets, with parks in the centers of the large blocks and sidewalks along the edge of the park, so that children and pedestrians do not have to walk along the traffic street to school. Here the City Housing Corporation of New York has already completed several hundred houses in good architecture, harmonious in arrangement and grouping and which fulfil their claim of "turning a city inside out" with each house facing a restful park or garden. Radburn is only 13 miles by air line from Columbus Circle in New York City, in that beautiful wooded area of New Jersey just west of the new Hudson River Bridge.

NEED OF GREATER COOPERATION IN BUILDING INDUSTRY

By Clarence L. Jay.

A FOX once invited a crane to dinner. The crane arrived on the appointed day with proper appetite, but when the dinner was served it came to the table in flat dishes, and because the crane's bill was not adapted to eating from such dishes he went home hungry, but not, however, until he had invited the fox to dine with him on the next day. The fox accordingly went next day to the home of the crane, and there the food was served in tall vase-like dishes, which the fox could not manipulate, because when he stuck his sharp nose down into the dish he couldn't open his mouth. The lesson in Aesop's fable might be stated by saying that the two animals attacked the problem with different methods of procedure, and with different viewpoints, the crane over a long bill, the fox across a sharp nose.

It is the same in relation to this group of problems that we call the building industry. We are all engaged in the same industry, our aims are as identical as were those of the fox and the crane—they intent on getting their share of the food, we on the construction of buildings to house this great civilization of ours. I think the crux of the matter; the reason why we don't get the measure of co-operation between the designing and the construction end of this industry is that we don't realize that our aims are identical. Consider the subject for a few minutes.

The final result of all our efforts is to provide adequate housing facilities at an economically sound cost for the activities of our day. Remember this, it is just as essentially the goal of the architect as it is of the contractor. There may be somewhere a writer who is satisfied to fill sheet after sheet of paper with words that he doesn't care whether anyone ever reads or not. There may be somewhere a composer whose sole ambition is to write notes on paper that will never be played by any instrument—but they are not poet nor musician. Poetry doesn't exist except as its rhythm and rhyme convey its beauties to our minds either through our eyes or our ears. Music cannot exist except as the composer's thoughts are translated to our ears by the performer. There may be an architect somewhere who is content to depict his creations on paper and stop there, but he is not, in so doing, creating architecture. The architect is just as dependent on the builder as the poet is on his reader and the composer on the performer. On the other hand, the reader or performer would not get very far without something to read or to play. You see, the thing works both ways, and the architect is just as much out of luck without someone to carry out his designs as a builder is without something to build.

Now if all this is true, there is no authority for the thought that architecture and building are separate industries, and any consideration of the one must necessarily include the other. And as members of this industry we are all concerned with the problem of providing adequate housing for the activities of our day at an economically sound cost.

No piece of machinery can operate at 100 per cent efficiency unless every part of it functions properly. We can all drive our automobiles down the street with one spark plug not firing. We can make average speed and have a reasonable degree of flexibility, but when we get in a jam or start up a hill we have to shift to second, with a consequent slowing up of progress, not only of ourselves, but also that of the people back of us. You all know the result, some hard-boiled cop comes up and not too sweetly tells us to get our crate out of the way, we're holding up traffic. Unfortunately, the building industry has no traffic cop; if it did he would surely be on our heels, yelling in no uncertain terms.

Now, don't misunderstand me, the building industry has made wonderful strides in the last few years, and I believe that nowhere in the United States has that progress been so apparent as it has been in California and the west generally. Our buildings are being used as examples in all lines of construction everywhere, and in concrete particularly we are years ahead of the east in our acceptance of it as a medium of expression. But we are not operating efficiently, and until we get a fuller measure of co-operation between the designing and the construction ends of the industry, we cannot hope to live up to the last part of our obligation to society, which I stated a few minutes ago in the words, "The final result of all our aims is to provide adequate housing facilities at an economically sound cost!" We are not doing it today, and the thing that stands in the way is the lack of realization that our aims are identical, a lack of appreciation of the other fellow's viewpoint, and a lack of desire to iron out our petty difficulties, and pull together.

These are not insuperable difficulties; they involve no intricate mechanical problems and no higher mathematics; but they do involve a large amount of human understanding and a large amount of that priceless ability to get the other fellow's slant at a thing. The individual can do much toward making his own projects operate smoothly and efficiently, but it is only through organization that the industry as a whole can be benefitted.

It is a common saying that America is over-organized. That we have organizations to carry on every activity that is imaginable. Perhaps that is true, and if so then we ought to have no difficulty in finding one or a group of them to handle the problem of making both ends of the building industry—the designing and the construction ends—meet on the common ground of mutual understanding. Inasmuch as I know of no organization that includes contractors and architects among its active members, I am going to suggest the use of two and outline a program, merely suggestive, for your consideration.

First, I would suggest that the Builders' Exchanges of every city, and your state organization, be strengthened as much as possible, carrying on the splendid work you are already engaged in of breaking down the barriers of suspicion among the contractors, convincing the little fellows that the big ones are not going to gobble them up, teaching the big fellows that, after all, the little ones have some good ideas, too; stressing the closer association, within your organization, of the different trades, through inter-association meetings at frequent intervals. There is no reason why the Master Plumbers' Association, the Master Plasterers' Association, the Electragists, the A. G. C. and all the rest of them should hold their meetings at different times. What a fine thing it would be if they could all meet in the same city on the same dates, and then have a great general meeting, under the auspices of the Builders' Exchange, to wind up with. What a great force that would be toward this co-operation that we are talking about in the building end of the industry. That is not my original thought, but it is better than any of my own that I could offer you.

Above all, let the organization stress the point that only through a strong organization like this can the crooks and the slickers be put out of business. The architects of this state have an organization, the State Association of California Architects, that includes on its membership rolls 100 per

cent of all the architects of the state. This association is working at the present time on similar lines and is a very active body.

I suggest a connecting link between the two organizations, a committee made up of members of both associations, whose duty it would be to foster friendly relations between the individuals of the two branches of the industry, putting on an aggressive program of inter-association meetings, at which time programs should be developed around the central idea involved, but greater stress laid on the opportunity gained for the individuals of both branches to put their feet under the same tables and talk over their coffee cups. This should not be a sporadic effort; it must be a careful, systematic and lengthy campaign, planned and directed by a central committee, at the state headquarters of our separate societies, and this committee, as well as the local committees for each city, should be made up of the most aggressive and perservering of our members, for they will have to lead a fight against custom, and a custom is a hard thing to upset.

I honestly believe you will agree with me when I say that a large portion of the inefficiency of the building industry at the present time is due to lack of co-operation on the job, and half our griefs are caused by the countless bickerings that are the result of this lack of cooperation. I bring you this suggestion for improving the situation as the result of some thought on the matter. I offer it to you for what it is worth, in a sincere effort to do what I can to help in the solution of a difficult problem that touches us all very closely.

Portfolio of

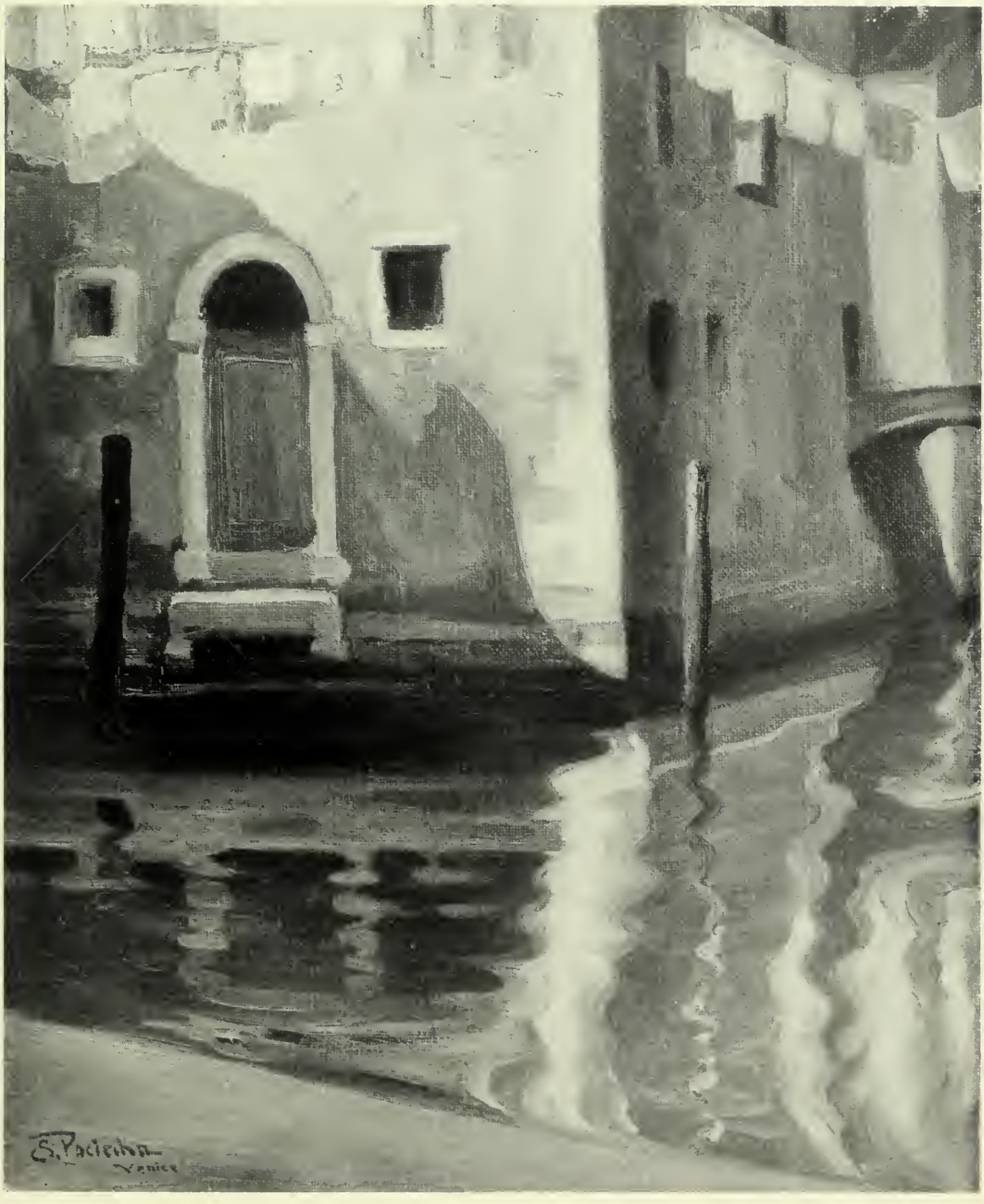
Murals *and* Paintings

by

Stan Pociecha-Poray

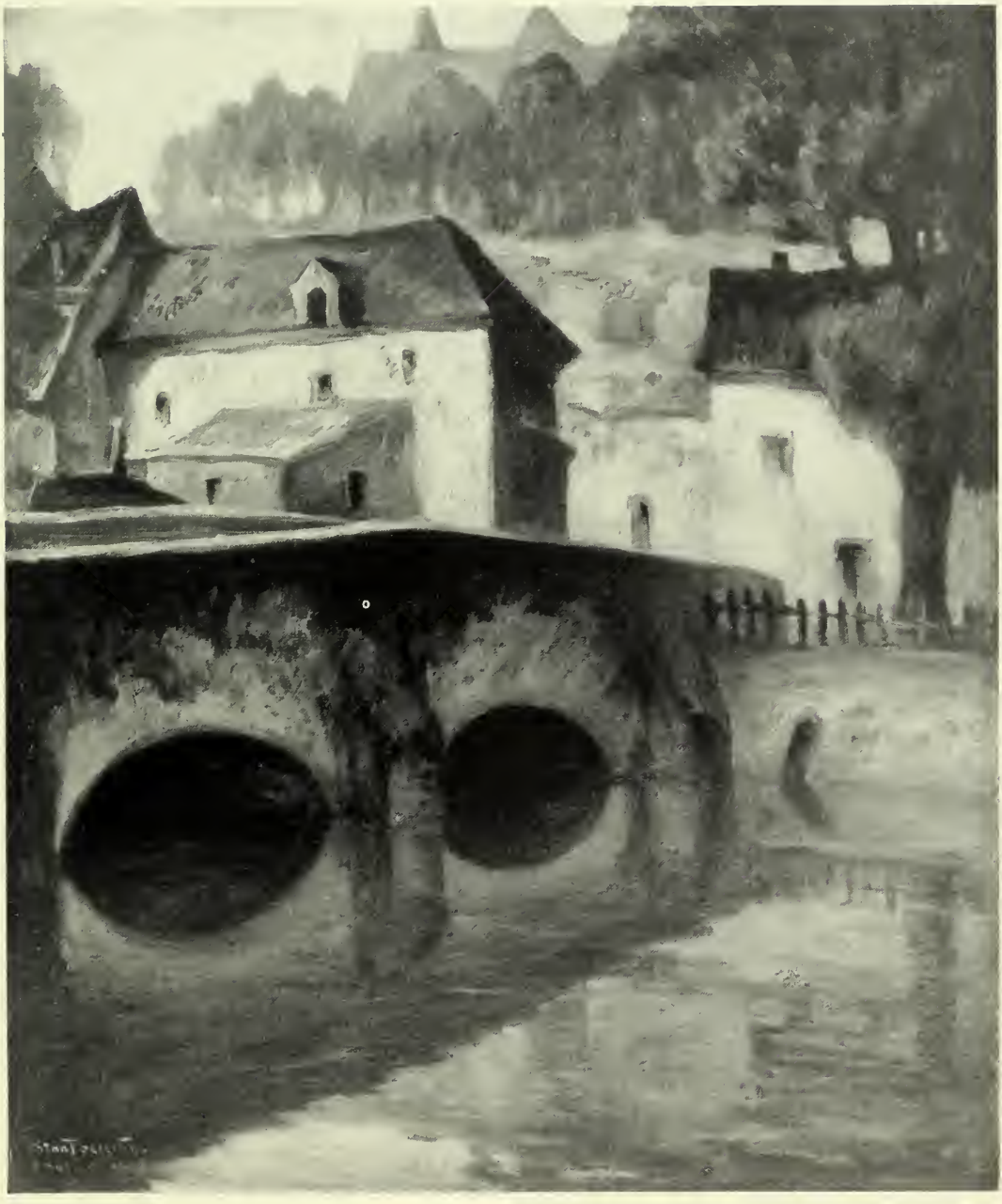
EDGE OF THE DESERT

A LITTLE STREET IN ROUEN, FRANCE



A DOORWAY IN VENICE

OLD HOUSES IN CHARTRES, FRANCE

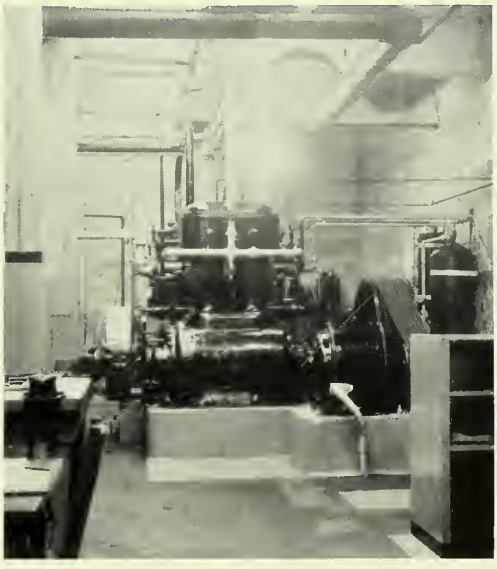


BRIDGE IN CHARTRES, FRANCE

ENGINEERING

and

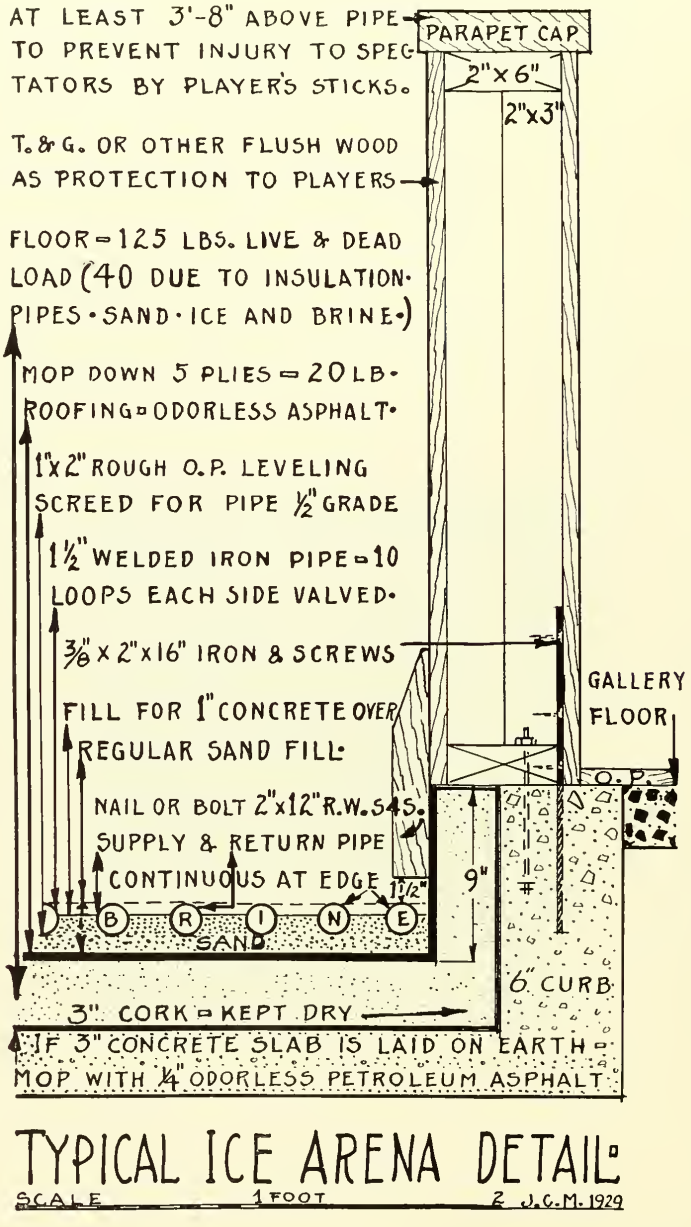
CONSTRUCTION



COMPRESSORS IN OAKLAND ICE SKATING RINK

Featuring

The Design and Construction of an Ice Skating Arena
in Oakland, California


AT LEAST 3'-8" ABOVE PIPE TO PREVENT INJURY TO SPECTATORS BY PLAYER'S STICKS.
T. & G. OR OTHER FLUSH WOOD AS PROTECTION TO PLAYERS
FLOOR = 125 LBS. LIVE & DEAD LOAD (40 DUE TO INSULATION. PIPES. SAND. ICE AND BRINE.)
MOP DOWN 5 PLIES = 20 LB. ROOFING = ODORLESS ASPHALT.
1"x2" ROUGH O.P. LEVELING SCREED FOR PIPE ½" GRADE
1½" WELDED IRON PIPE = 10 LOOPS EACH SIDE VALVED.
⅜" x 2"x16" IRON & SCREWS
FILL FOR 1" CONCRETE OVER REGULAR SAND FILL.
NAIL OR BOLT 2"x12" R.W.S.
SUPPLY & RETURN PIPE CONTINUOUS AT EDGE
1½"
9"
B R I N E
SAND
3" CORK = KEPT DRY
IF 3" CONCRETE SLAB IS LAID ON EARTH = MOP WITH ¼" ODORLESS PETROLEUM ASPHALT
PARAPET CAP
2"x6"
2"x3"
GALLERY FLOOR
O. P.
6" CURB
TYPICAL ICE ARENA DETAIL.
SCALE 1 FOOT
2 J.C.M. 1929

DETAIL, ICE ARENA, OAKLAND, CALIFORNIA
WM. E. SCHIRMER, ARCHITECT

DESIGN AND CONSTRUCTION OF AN ICE SKATING RINK

By: Julian C. Mesick

ICE skating has always competed in recreation interest with even the theater, and today is riding on the popular sport wave. It holds a lure that does not vanish with our advent into an iceless country. A snowless arena, under temperature control, has definite advantages over the pond and bonfire. It has most successfully invaded the cold metropolis areas of this country. It serves to bring back picturesque memories and promote an ideal sport with its consequent benefits to community and individual. It becomes of interest to investors, and a problem to architects and engineers.

A rink may be a financial success in towns of fifty thousand and over, states H. R. May, engineer, consulted for data herein. Ten thousand less may support one if a college or other interested group is near, but each problem demands individual study of conditions. Public support comes through teams representing schools, fraternities, business and industrial organizations. These must furnish exhibition and match games weekly to a gallery of not less than four thousand. Skating and concessions supply the balance of the returns—about sixty per cent. Amusements should pay higher returns than standard business constructions; in this case, not less than twelve per cent on all money invested plus amortization: in frame buildings, ten to fifteen years — in concrete or fireproof buildings, fifteen to twenty years.

The minimum practical building is 175x 225 feet plus basement or machinery room 45x100 with thirteen foot ceiling (in the clear). Arena ceiling height depends on requirements for clear vision. Forty foot walls will include trusses. The cooling tower platform should conform to local ordinances and support not less than seventy pounds live load per square foot. Area eighteen by forty-six feet.

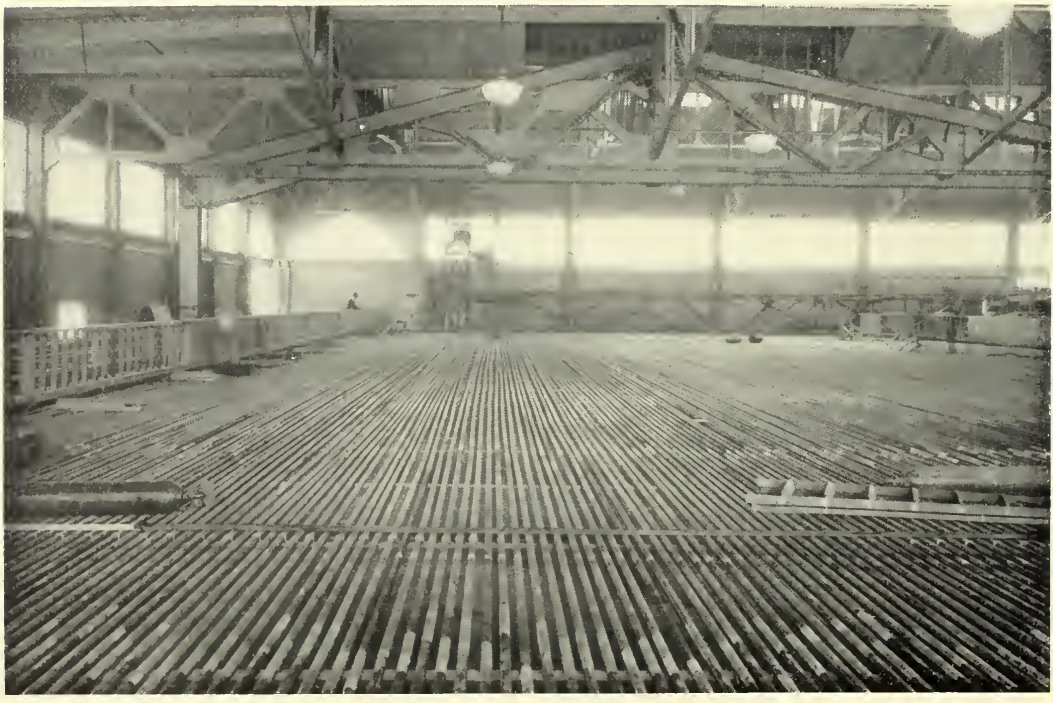
The minimum arena area, that for hockey, is one hundred eighty feet eight inches by eighty feet eight inches inside the curb insulation, which must be flush as shown by detail illustrating this and other important items. Corners of the rink are struck on twenty-five foot radii, but the brine pipes carry straight through to ten inch diameter supply and return pipes placed in a four and one-half foot pipe space added for the full eighty foot eight inch width, at the low distribution end. This space is bridged for continuous passage around the arena, with flush access doors in the floor thereof. A four by four by twelve foot drainage sump should adjoin the outside of the curb on one side.

Service, as office for business and skate rent, coat checkroom, and men's and women's toilet rooms with a lounge connected

with the latter, if space permits, may be placed under the seating area. Fountain counter service for food, tobacco and candies must be of easy access for those wearing skates. The hockey clubroom and a smoker for all men patrons may be placed in the portion of the basement not used for compressors and brine tanks. These latter require twenty and twenty-four foot widths respectively, each forty-eight feet long.

In large cities the development may be housed in several ways before a large arena seating fifteen thousand spectators is demanded. These adjustments to demand can only be advised by a refrigeration engineer, experienced in rink operation and construction. A practical and pleasing architectural layout always pays. A small rink needs the same services, lest the owners find themselves possessed of an ill considered building and equipment, expensive to keep up and operate. For instance it may prove fatal to have "soft" spots in the ice, portions which freeze too quickly, or variations of more than one-eighth inch in the half inch pipe grade from end to end of arena.

The banker and investor is interested in any project involving valuable land; and, building and equipment costing seventy-five to one hundred seventy-five thousand dollars. Minimum refrigeration alone costs from thirty-seven to forty thousand dollars. They want convincing proof that an arena floor should be concreted over the pipes for exhibition matches, as boxing. Then they must *know* that insulation will permit the removal or remaking of the ice sheet in eight to nine hours, for next day's use. Ice sheets are built up about one-half inch on concrete and 1½ on sand fill by spraying on hot water under hundred pound pressure. It freezes by the time it has found its level.



H. R. May, Engineer

TEN MILES OF PIPE, ICE SKATING ARENA, OAKLAND, CALIFORNIA

W. E. Schirmer, Architect

Other items to be provided are: Roof ventilation to prevent condensation dropping back on the ice; special hockey reflectors for and spacing of lighting units. Entrance to arena floor should be on corner curves only, through gates opening out. Compressor room must have an outside machinery entrance of five by seven and one-half feet if in the wall, and four and one-half by ten feet if in basement ceiling.

All rinks should be equipped with safety appliances and fire connections as provided by the Safety Code of the American Society of Refrigeration Engineers. This equipment is composed largely of ammonia diffusion and high pressure safety cutout devices on both high and low pressure lines. High pressure lines extend from the compressor to the expansion valve; low, through the brine tank. Brine of calcium chloride is used in the arena floor pipes for safety.

In Oakland, California, The 20th Century Market Company recently became convinced that a rink is the solution for the use of the major portion of their property—located three blocks from the business center on West Fourteenth Street. William Edward Schirmer prepared an architectural plan demanding few building changes. A large steel truss replaces the center bearings of three truss lines, giving a span of two hundred feet. Most of the plate glass has been removed as unnecessary and to prevent sun rays on the ice. The windows on Thirteenth Street have been eliminated. A Fourteenth Street entrance has become the main entrance.

The building by the Dyer Construction Company and refrigeration, including piping, by the Edwards Ice Machine Company, were completed three weeks ahead of agreed date.

Photo by J. C. Mesick

ICE SKATING ARENA, OAKLAND, CALIFORNIA

W. E. Schirmer, Architect

THE ARCHITECTURAL DESIGN *of* GRADE SEPARATIONS

By Walter Wright Alley, *Bridge Architect, in The Municipal Engineer*

THE architectural design of the different types of grade separations varies with the conditions of each problem. There is, however, one important point that must be kept constantly in mind. Grade separations, particularly highway over highway, are seen at close range from below as well as from above. As a result, careful study must be given to the undersides of arches and girder spans, and to the faces of piers, abutments and approach walls, in addition to the study usually given to handrails, pylons and lighting standards which are seen from above.

The public will no longer accept ugly structures when they can be made pleasing to the eye and become a lasting example of harmonious arrangement, at small additional first cost. Today, people are rapidly learning that money spent for beauty and harmony is a good investment. Therefore they are demanding that more thought be given to those utilitarian structures which mean so much to them in added safety and convenience. In this manner, beauty and harmony add to the pleasure of the travelling public and act as an advertisement of the city's charm.

Another factor is likewise forcing more attention to the architectural design. The problem of maintenance in these structures is bringing the use of more enduring materials into greater prominence. With the use of more permanent construction, it is a matter of simple logic to give more thought to the architectural design of the structures, in order that they may be harmonious throughout and beautiful in their details. A well-proportioned bridge or grade separation, built of lasting materials, remains pleasing to the aesthetic sense as long as it is in use.

The importance of visibility in grade separations is likewise drawing more attention to the need of proper architectural treatment of these structures. The more open and well-lighted these structures are made, for reason of safety and convenience, the more opportunity there is to see their various parts from different points of view. Therefore added care must be taken in their design. Also, in this connection, due thought must be given to the pedestrians, for they will be closest to the structure and will be impressed with the details and surface treatments. By contrast, those in the stream of swiftly-moving traffic will be impressed by the design as a whole and by the harmonious relation of its component parts.

The present efforts to aid and expedite traffic are bringing in the use of easier changes in grades and larger radius curves. This in turn makes for longer approach walls and more open roadway planning. Thus more of the structure is visible and more attention must be given to its design. The travelling public no longer looks with favor on any structure having the appearance of a tunnel, with the lighting and ventilation problems that go therewith. So all factors are tending to make these grade separations more open and visible, calling greater attention to their architectural treatment.

Still another influence which further emphasizes the architectural design is the attempt now being made to eliminate noise from these structures. The structural engineer, in his efforts to reduce noise to a minimum, finds it necessary to use larger members with greater provision for ballast; steel parts are encased in concrete and piers are made hollow whenever possible, thus increasing their bulk. As a result, such measures increase the importance of these members in the total scheme, and in turn, greater attention must be given to their architectural treatment.

In the consideration of the architectural design itself, the proportioning of parts and their ornamentation must constantly be considered in the light of the utilitarian character of these structures. Rarely are they of such size and importance that they can be treated in a monumental manner. In the unusual case where the grade separation may be in close proximity to, or within the boundaries of, a public park or parkway, such treatment may be logical and in order, but such cases are rarely met with in practice. This should not be construed to mean that full attention should not be given to the careful architectural study of the simplest of such structures. Often these are the most difficult to deal with, owing to unusual intersection angles or difficult clearances. But these are the very ones most used and consequently the most observed.

Materials of construction to be used in the particular structure under consideration should be the criterion for the determination of the method of architecturally treating the detail parts. Steel construction alone, limits the design in the greatest degree. Steel with concrete allows more freedom of design, and a reinforced concrete structure, being constructed of the most plastic and at the same time the most enduring form of construction, allows the greatest freedom of architectural expression. Marble, terra cotta and brick can rarely be used, and so the finer ornamentation associated with the use of these materials is usually out of place.

One phase of the architectural treatment of these grade separations, which thus far has received scant attention, is the landscaping. As these structures become more elaborated in the separation of the various traffic lanes, small triangles and other odd-shaped pieces of land are left. With proper planting, arranged so as not to impair the visibility, these can be made exceedingly attractive. Even in the simplest of grade separations there is space remaining along the approach walls where the sloping ground can be utilized for planting, thus contributing to the embellishment of the structure. The enhanced value accruing to the abutting property at such a grade separation should more than pay for the cost of the land used for such a purpose.

In a summary of the special conditions which have to be considered in the architectural treatment of grade separations, it is in order to emphasize properly the attitude which should be held by those who have to do with the design as a whole. The bridge engineer is interested in the safety of the structure, the strength of the materials and the economy of cost. He designs so that the structure will be safe, strong and enduring. The traffic engineer, however, deals with the use of the structure, the safety of the traffic and the economy of time. His contribution to the design enables traffic to be expedited and human life to be safeguarded. In addition to all of these, the bridge architect is concerned with the finished structure. He has to consider the relation of the parts to the whole design; he plans so that each part will express its purpose and at the same time harmonize and fully express the aims of the others. Above and beyond all else, however, the bridge architect is concerned with the beauty of the completed structure, beauty in this case consisting of the harmonious treatment of the structure, appealing to the eye of the beholder and spelling the ultimate success or failure of the bridge in so far as the public is concerned. For it must be generally recognized that the average man is most impressed by sight and not by a scientific sense of strength and safety.

The ARCHITECT'S VIEWPOINT

- *The Architect's Province as a Landscape and Interior Decorator*
- *Architectural Control as Applied to a Portland, Oregon, Project*
- *Dreadful Waste in Manufacturers' Literature*

CONTRIBUTING EDITORS
WILLIAM C. HAYS . . *San Francisco*
CARLETON M. WINSLOW . *Los Angeles*
HAROLD W. DOTY . . . *Portland, Ore.*
CHARLES H. ALDEN . . *Seattle, Wash.*

SOMEONE, perhaps a speaker at a luncheon club, said that a man should have a hard head and a soft heart to properly cope with the present day world. To infer that a great many architects have soft heads as well as soft hearts might be just cause for protest. However, through natural temperament, the architects, for the most part, have taken far too many blows; blows often not included in the best traditions of the Marquis of Queensberry, for them not to retaliate with a few healthy wallops, if only in self defense. It appears that we would have to organize an Architects' Unit of Shock Troops, and when the organization is formed it is hoped that the officers will be men of spirit and dash, the type of Mr. Hays, a contributor to this column.

It is not as surprising for the architects to be flayed as they were by Mr. Flagler in *The Nation's Business*, as it is for *House and Garden*, as Mr. Hays says, "one we had looked on trustingly as a friend," to come out with cutting sarcasm regarding the activities of architects as decorators. To *House and Garden* we exclaim, as Caesar did, "Et tu Brute!"

The editorial in question is misleading as are all such, where statements are made that are so sweeping in their generalization. Granted that some architects are not fitted nor competent to advise on decoration and furnishing, the fact remains that many in our profession, past and present, have been eminently successful in this art and in landscape design as well. There has been such a host of architects in the history of architecture who could complete their visions down to the last detail, within the buildings and without, that it would take quite a volume to tell of them and their work.

* * *

NOT so long ago, the late C. F. A. Voysey, in England, not only designed houses and gardens, but also designed in his very individualistic style, furniture, textiles, rugs, tiles, lighting fixtures, silverware, wall paper, china, and so on, including almost everything in and about the house. To practically the same degree, Baillie Scott, English architect, has carried his designing ability, and has written a meaty book on all phases of house architecture, including decoration and gardens.

Many architects may not be fitted by experience or temperament to do decorating or to plan gardens or are prevented from so doing by circumstances, but to those who can and have may we make a gracious bow. This bow would not be unbecoming on the part of *House and Garden*. At just what stage of development should the architect wean his child and turn it over to a foster parent or guardian? Before the paint goes on or just after? Shall the colors be left to the decorator, the lighting fixtures, the floor coverings, the panelling—just where and when should the architect drop out of the picture?

IN the case of architects like Sir Edwin L. Lutyens, whose work has a highly personal quality, and whose ability is recognized the world over, who, other than Sir Edwin, himself, can anyone inform us, is better able to carry that character throughout the entire work? Quoting from Sir Lawrence Weaver, noted English critic and writer, in his book "Houses and Gardens by Sir Edwin Lutyens," we have this: "It is rarely the case as at Heathcote, that the architect has the opportunity of designing every piece of furniture for the house and choosing every hanging and carpet. The overruling unity which here prevails is not only a tribute to the skill of the designer, but to the unusual wisdom of the client." Perhaps the writer of the editorial in *House and Garden* is not also a decorator, let us hope not, for before the decorators assail the architects they must be sure their own house is as tidy.

In some of our smaller cities it is difficult to find a decorator who has the knowledge and ability to adequately fit him, or more often, her, for the job. Too often she has not had even "the four months practical training course," as advertised. In these localities when the architect would be grateful for competent help, where can he obtain it? Decorators and landscape architects of signal ability are not usually found in any but the largest centers. Then again there are architects like Voysey, Ernest Gimson, Baillie Scott, and Lutyens whose individualistic design has not followed the "periods," and since in the last decade, "period" has been the guiding star of most decorators, what else could the poor boys do, but roll their own?

* * *

IT was very interesting to read in THE ARCHITECT AND ENGINEER of the progress made in architectural control in the Palos Verdes project, and now civilization creeps upon Portland! The owners and developers of a new residential tract here, called The Highlands have appointed, through the Oregon Chapter, American Institute of Architects, a board which will pass on the design of all construction in the district. As far as known to the writer, this is the first time control of architectural design has been adopted for any subdivision in the State of Oregon. It is needless to say that the Oregon Chapter will give the project most whole hearted support. Most of the designs passed on to date have been of a pleasing type, and if the future ones are equally good, a beautiful district is assured, for The Highlands is a place of fine natural beauty.

* * *

DOESN'T it often occur to the architect, when he goes through that bewildering sheaf of documents; folders, followup letters, booklets, etc., that constitute the morning mail, that very much of somebody's good money is sadly misused, if not flagrantly wasted? Not entirely wasted, perhaps, because the printer, the paper maker, and the clerks must all live too, but if the manufacturer believes that his dollars spent on many of the "Steam Lines," "The Valve Eras," and "The Stone Ages," are producing for him, he is mistaken. No architect has the time to read these countless booklets, even if strangely, he has the inclination. Why doesn't the manufacturer put this money to better uses, and more profitable? Liberal advertising space in *The Architect and Engineer* for example. Thinking of one large company, in particular, manufacturers of a well known building commodity, if they would spend some of the thousands upon thousands of dollars which they now spend on waste basket fodder in the further improvement of their product, how much better it would be for them and for the architect.

HAROLD W. DOTY, Architect, Portland, Oregon.

EDITORIAL CHAT

A CLOSE-UP OF PORTLAND CHAPTER

THE California Chapters can take it from me they have to hurry if they wish to keep pace with their aggressive Oregon brethren. Outside the Duck State you don't hear very much about their activities but in and around the city of Portland the public is given a weekly, and sometimes daily, eye-full of news and general information about architects and architecture. No civic movement calculated to benefit the State of Oregon, or City of Portland, architecturally, is overlooked by the Chapter, while a continuous campaign of education is conducted with articles by leading members of the profession.

As evidence of this the Chapter's very efficient and untiring secretary, Fred Aandahl, volunteered to show me his scrap book, a bulky affair, filled to overflowing with newspaper clippings having to do with the Chapter's activities. We find in these excerpts, reports of meetings, signed communications by architects on questions of civic betterment, articles on the value of an architect's services, and pictures of well designed houses with suggestions to the layman as to proper procedure in building the small home. All this publicity, mind you, without monetary investment on the part of the profession. Just good publicity put over by an agrressive know-how-to-do-it committee.

* * *

IN a recent visit to the Web-foot city I had the pleasure of attending a Chapter luncheon. San Francisco and Los Angeles Chapters, by the way, find the dinner hour more convenient for their meetings, due possibly to more attractive menus offered at that hour. Some twenty or more architects were present at the Portland luncheon, which was splendidly presided over by the Chapter's new president, Folger Johnson, recently returned from Florida, and who, by the way, looks a deal like Regional Director Myron Hunt of Los Angeles. Reminded of the resemblance Mr. Johnson graciously replied that he felt quite honored.

Like the California Chapters, the Oregon State fellows are intensely interested in what the Government is going to do for the local architects in preparing plans for a new Federal Building to house the courts and other government officials. The Portland architects would like to see a competition for this building and a resolution to this effect was passed at the meeting with the stipulation that the contest be limited to members of the Oregon Chapter and that the program be prepared in accordance with the rules of the A. I. A. Just how the Government will receive this proposition is problematical. Several individual firms have already applied for the job and when all has been said and done the element of politics will undobutedly cut quite a figure.

* * *

I COULD not help but notice how the younger members of the profession are forging to the front in the Chapter activities. This is always a good sign, for we are living in a modern age and must look to youth to take the initiative in giving to architecture the new forms that are expressive of our own time. To quote Mr. Hewlett, first vice president of the Institute, "It is the responsibility of the present day architect to express in his buildings the civilization of this age, on which future generations will pass judgment. We have reached the point where reliance upon the knowledge of the old will not alone carry us on. We must combine with it the utilization of the present modes and give to architecture new forms expressive of our own time."

And while on the subject of youth the Portland profession has to be recognized for two outstanding accomplishments by its younger members. Herman Brookman, smallest member of the Chapter, (physically speaking) is credited with having designed the largest and best looking house in Portland, while Harold Doty, the largest

member (again physically speaking) has distinguished himself as architect of the smallest good looking house in the city—a house that reflects good design, a house with a full basement and two floors, seven rooms, two baths, a furnace and detached garage—all for $6,500, including a 10 per cent architect's commission.

* * *

AFTER holding two fairly successful Honor Award Exhibitions, the Oregon Chapter has decided that these contests are not the thing for a small city and the members as an organization will no longer sponser such contests. While judgment is usually made by a capable architect's jury from outside the state, the members feel satisfied that the judgments are not always well placed and for that reason are not promotive of the good heretofore generally attributed to them. It is felt that the jury is sometimes inclined to give an award more on account of the prominence of the architect than for the real merit of the work. It seems to sift down to a matter of judgment of two or three men, not infallible of course, as against the ultimate opinions of an entire Chapter membership. Members, however, believe in encouraging good craftsmanship and for such Honor Awards will continue to be made by the Oregon organization.

—F. W. J.

* * *

THE small house controversy seems still to be a live issue as evidenced from the following letter to the editor from Carleton M. Winslow of Los Angeles:

"I had intended to stay out of the small house controversy, but here I am airing my views. I have been interested and some times actively engaged in the small house problem and I occasionally "take on" a small house, always for some friend or client who is doing larger things. For the friends I have usually charged a minimum ethical rate of commission; for the clients —full rates 10 per cent or more. Strangely enough these jobs have always shown a profit, but of course they were all profitless in one sense as they took my personal time away from more financially remunerative work. They were always interesting and of some of them, I have been proud.

"Some architects of good practice would like to 'do' small houses but feel that their reputations would suffer if they stooped architecturally. Personally, I have little architectural shame.

"As to the books on the small house, and there are now many of them, I think their chief value is as study and reference books for the lay public and architects too.

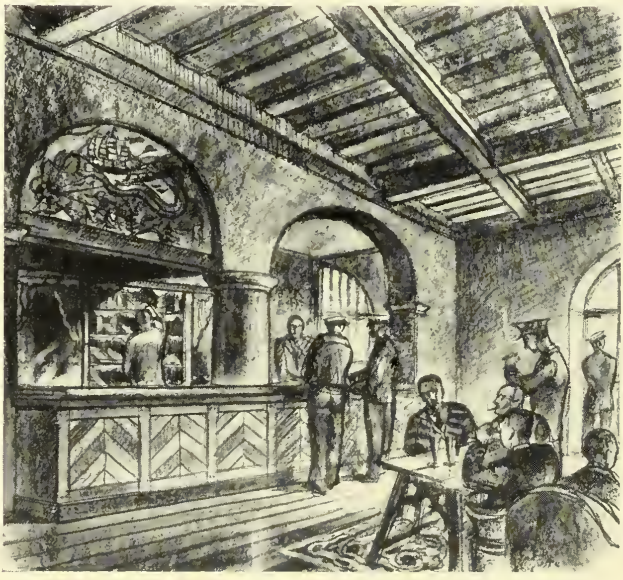
"I believe that the number of working plans and specifications purchased through them is small, and the number of houses built exactly as the 'stock' plans indicate, smaller still. Mrs. Smith thinks that the living room will get more sunlight if the house is turned over, and she needs a breakfast room (though why the devil anybody wants two eating places in a small house is beyond my comprehension) etc., etc. In any event, if Mrs. Smith *does* butcher the plans for her Germantown house built in Kansas she usually comes out better than if she purchased a set from the local lumber company.

"The policy of the Santa Barbara group interested in the small house (centering in the Small House Book published by the Santa Barbara Community Arts Association) is to get the prospective plan buyer to go to the young architect who contributed some selected design and have him go ahead with the house on a regular commission. He usually can afford to take it for 6 per cent. I think that this way of using the stock design is of great value to the profession and particularly to the young architect.

"As to duplication of houses from one design, this cannot be helped. Mrs. Smith, again, sees some house she likes and has her builder or some one make a snap shot of the finished product and copies it anyway.

"In general 'Small House' architecture has unquestionably elevated lay taste — enormously — also that of the speculative builder and 'carpentect', as Russell Ray calls him. There are technical and possibly ethical objectives to the movement — there also are to the anti-prohibition movement— but my vote is to keep on with it and help it all I can."

"ARK VILLA," ALAMEDA
Sketch by A. Hewetson



BAR ROOM, ST. FRANCIS YACHT CLUB, SAN FRANCISCO
Sketch for Willis Polk and Company, by Michel Goodman

THE DESIGN OF THE FERRY TOWER, SAN FRANCISCO

Editor THE ARCHITECT AND ENGINEER,
San Francisco.

An article appearing recently in a San Francisco newspaper gave credit for designing the Ferry Tower to the late Willis Polk. This statement is erroneous; he was not associated with the architect at the time is was designed. It is true that Mr. Polk made a very beautiful drawing of a project for a colonnaded fore-court in the front of the building and naturally included the tower in the design. He, however, made the perspective drawing of the tower as it should have been built with a much higher shaft and he only approximated the then existing design of the upper portion of the tower.

A. Page Brown was the architect of the Ferry Building. His chief draftsman was A. C. Schweinfurth, who naturally was in charge of the preparation of the drawings for the building. So far as my records are concerned, the facade was designed in elevation and plan only at scales of $\frac{1}{8}''$ and $\frac{1}{4}''$ to the foot. Structural drawings for the steel work were made from these designs, the contract let and the steel work practically completed before any further detail drawings were made.

Mr. Schweinfurth at that time retired from Mr. Brown's office and the position was taken by Frank S. Vantrees. Shortly thereafter Mr. Brown was killed in an accident. Edward R. Swain was later appointed architect of the Ferry Building. In the meantime, in order to protect the interests of Mr. Brown's heirs to the extent of the completion of such drawings as he would naturally have had made in the course of the construction of the tower, Mr. Ventrees and his staff prepared a set of scale and full size details of the interior portion of the structure. These details were naturally based upon the structural steel drawings and the steel structure itself, which was then practically all in place.

Newton J. Tharp was then chief draftsman for Mr. Swain. He resigned and I took his position. I found upon the boards a nearly completed large scale drawing (made by Mr. Tharp) of the architectural features of the tower, which also took into consideration the exact position of the steel structure with its relation to the various platform stages and setbacks, both vertically and horizontally. Assuming all data to be correct, I proceeded to complete the drawing.

About this time a representative of the company which furnished the clock decided to make an advertising display, consisting of a picture of the clock face, and asked Mr. Swain to prepare a perspective drawing for him in a certain position in the street. This work was assigned to Walter E. Pinkham, who was one of the most accurate draftsmen and careful architects I have ever known. The result was astonishing. The perspective indicated the tower to look like a half collapsed telescope. I checked the drawing over with Mr. Pinkham and found everything correct and immediately took it to Mr. Swain's apartments, where he was confined. Having convinced him of the correctness of the drawing, he immediately ordered a restudy of the entire tower, which was made (all former drawings and details being discarded.) This consisted in raising some of the platforms or setbacks many feet above the position of the horizontal steel frame, as well as making the circular portions of greater diameter, and alterations so far as possible under the contracts existing and the extras allowed by the Harbor Commissioners, to produce the result as now exists. Nearly all of these new drawings were made by myself, and such as were in existence in my files were destroyed in the fire of 1906. There were probably other draftsmen employed upon this work, but those mentioned above were the ones who were responsible for the final result.

CLARENCE R. WARD, A. I. A.

SANTA BARBARA ARCHITECTURE

The best examples of civic and commercial architecture in Santa Barbara, embodied in buildings erected during 1928 and 1929, will be designated by a jury selected by the plans committee of the Commuuity Arts Association of that city.

The judges will be Harold C. Chambers, Los Angeles, newly elected president of the Southern California Chapter, American Institute of Architects; Charles H. Cheney, Palos Verdes Estates, architect and city planner, who has served on many architectural juries; H. Philip Staats, a member of the plans committee and a member of the American Institute of Architects, Connecticut Chapter, and John M. Gamble, Santa Barbara artist, who has been particularly interested in the problem of color as well as design in architecture.

ROOFS OR ROOKERIES

(Bulletin of New York Public Library)

ENGLAND and the Continental countries have long been interested in ridding their cities and towns of slum sections and in getting all their people adequately housed. But it was not until after the War that labor conditions and increasing congestion in their already overpopulated cities, put vim and vigor into such activities. In spite of the numerous other pressing problems of reconstruction, certain of these countries have achieved housing programs that leave great, prosperous American cities, which happen to investigate them, speechless at their own "do nothing" policy.

Well, just what have London, Berlin, Paris, Vienna and other Continental cities actually done in the decade since the War in the way of providing new homes in place of rookeries?

London alone has erected new homes and modern tenements sufficient to house nearly 200,000 families. By 1933, Paris hopes to complete its housing project which proposes to create new homes for 130,000 families. Berlin since 1924 has provided for 100,000 families and plans to continue its construction program at the rate of 20,000 apartments each year until it has put all its inhabitants in sanitary new homes. Vienna, impoverished as that city is, has since 1919 destroyed its rookeries to the extent of providing 45,000 families with new roofs, and plans to complete its housing program by 1932, when it will have constructed apartments sufficient to house 60,000 families.

Naturally the question arises—How have so many roofs replaced so many old rookeries? What methods or means have England and Europe found to accomplish what we have been talking of doing but have never done? Government subsidy is in general the answer. Though the form of housing assistance has differed in the various countries it has nevertheless been a subsidy and American cities do not care much for this expensive form of promotion. If, however, the prosperous American cities do not face their acute housing shortage squarely, they may one day be forced to accept this plan, however much they dislike it.

Aside from the question of subsidizing housing there are, however, many phases of these foreign governmental and municipal housing projects that merit our attention. England has advanced farther in its housing program than any other country. Letchworth and Welwyn are the outstanding examples of what can be done in creating model cottage towns. If these projects have assisted only in a small way in relieving city congestion, they have, at least, popularized the cottage estate movement and given some excellent ideas on cottage building, which are being followed by many other countries. The London Common Council is London's most important landlord, as its tenement dwellings and cottage estates house nearly one-fifth of a million people. Here, as the aim is decentralization of population, much emphasis has been placed on cottage estates for the less populous outer London. For central London, four and five storied tenement dwellings have replaced the slum clearances. From April 1, 1919 to December 31, 1927, 24,085 houses and flats having 90,578 rooms were erected by the London County Council.

Vienna, a city which owns and controls all its public utilities, also is showing what can be done in municipal housing by a determined government. It provides money for its projects by taxing owners of houses which were in existence in 1918. Vienna confined its housing projects to municipal tenements. These occupy only about fifty per cent of the land. The majority of the apartments consist of two rooms, while the three-room apartments come next in number. Mr. Fink, writing of these dwellings, makes this statement:

"What makes these Vienna tenements stand out is their cheerfulness, their architectural beauty, wide courts, the balconies, the play spaces, the kindergartens, nurseries, laundries, gymnasiums, the fountains and flowers, and statuary. The combination of these create a home in the fullest sense—not a mere place in which to exist. Vienna leads the world in creating for her workers an atmosphere of culture and happiness."

A noted housing expert recently stated that "if one desires to study new building methods and the adoption of new materials in connection with mass production there is probably no place better than Germany in which to study these aspects of housing at the present time."

Berlin has stepped into a leading place by the manner in which it is improving the conditions of its working people. Louis H. Fink, Secretary of the Housing Committee of the Brooklyn Bureau of Charities, who has just returned from there, says that "the homes provided in Berlin for its workers are equal to the highest class buildings in American cities."

WILLIAMS SCHOOL BUILDING

The Williams School District has appointed Starks and Flanders, architects, Forum Building, Sacramento, to prepare plans for a new school building for which a bond issue of $105,000 has been voted.

WITH *the* ARCHITECTS

THE MODERN HOME

Increased building activity in the bay region is responsible for the inauguration of a course in "The Modern Home," which will be given by the University of California Extension Division beginning March 12.

The course will be under the direction of William C. Hays, who, besides being Professor of Architecture at the University, is well known for his architectural work throughout the Pacific Coast.

Prof. Hays will speak on house plans, the site and the relation of the house to it, equipment, arrangement, interior and exterior design, styles of homes, what constitutes a good house, some consideration of the investment, and value to be considered when purchasing a house. The class will be held at the Extension Building at 540 Powell Street, San Francisco.

PORTLAND WAREHOUSE

The MacMarr Stores, Inc., will have a new warehouse, office building, garage and workshop at Guilds Lake, Portland, from plans by Sutton and Whitney, Lewis Building. The structures will be of reinforced concrete, one and two stories, and will represent an investment of $400,000. The same architects are preparing plans for a warehouse in Los Angeles for the MacMarr Stores, estimated to cost $90,000. They are also making sketches for a hospital in Los Angeles, a hospital in Portland and a baby home in East Portland, the latter to be of brick and to cost $90,000.

SIXTEEN STORY DEPARTMENT STORE

Portland will have a sixteen story Class A department store building, consisting of a new wing to the Meier and Frank Company Store, from plans being prepared by de Young, Moscowitz and Rosenberg, New York, and Herman Brookman, Yeon Building, Portland, associated. The engineering will be handled by T. Ronneberg of San Francisco. The cost is estimated at $1,000,000.

W. P. DAY GRANTED LICENSE

At a meeting of the State Board of Architectural Examiners, Northern District, the following was granted a provisional certificate to practice architecture in California: William P. Day, Financial Center Building, San Francisco.

TROJANS TO EXHIBIT WORK

The entire second floor of the State Building in Exposition Park, Los Angeles, is to be devoted to a display of the work of students in the School of Architecture of the University of Southern California from April 2nd to June 1st.

In addition to building plans and designs, there will be freehand drawing, mural paintings, stained glass designs, water-color sketches, statuary, bas-reliefs, sketches of interior arrangements, ornamental iron work designs, friezes, and figurines clothed by co-eds to illustrate period costumes.

The same work will constitute a campus exhibit in the Architecture Building of the University of Southern California during the Semi-Centennial celebration of the Trojan University, May 29 to June 7th.

THIRTEEN STORY HOTEL

A 13-story hotel, to cost approximately $1,500,000 is being planned for a site on West Washington Street, between Seventh and Eighth Avenues, Phoenix, Arizona, for Mrs. Maude J. Kay. Plans are being prepared by Harrison B. Traver, of Los Angeles. The proposed hotel will be of modernistic design with a central unit and two wings, containing 304 guest rooms as well as a spacious lobby, dining room, coffee shop, beauty parlor, twenty-five stores and shops and basement garage.

TWO OAKLAND THEATERS

Two new theaters are promised shortly for Oakland. One is for the Paramount Players and is being designed by Miller and Pflueger of San Francisco. It will have a seating capacity of 3500 persons. The other playhouse is for Warner Brothers and is being designed by G. A. Lansburgh of San Francisco. The buildings will cost in excess of $1,000,000 each.

PORTLAND CHURCH

Working drawings are being prepared in the office of Morris Whitehouse and Associates of Portland for a $250,000 Christian Science Church in East Portland. Construction will probably start this spring.

PIEDMONT RESIDENCE

Plans are being completed in the office of Williams and Wastell, Oakland, for a $50,000 home in Piedmont for J. C. Witter.

H. A. MINTON BUSY

H. A. Minton, architect for the Bank of Italy, with headquarters in San Francisco, has been preparing plans for several alteration jobs for the Bank throughout the state, which comprise branch institutions and stores on property recently acquired by the Bank. Mr. Minton's office is also busy on a group of tennis courts for the Sacred Heart Convent in Menlo Park, and a convent building for St. Monica's Parish in San Francisco.

WILLIS POLK & CO. ACTIVE

Willis Polk and Company of San Francisco, reports that as soon as arrangements for a loan, being negotiated by the Union League Club, are completed, work on final plans for the new club house will go ahead. This office also reports plans being prepared for the first unit, to cost $50,000, of a new edifice for the First Baptist Church in Burlingame.

SEATTLE RESIDENCE

Lewis P. Hobart, Crocker Building, San Francisco, has been commissioned to prepare plans for a $400,000 residence to be built in Seattle for D. E. Frederick. The house will be designed in the French style. Olmstead Brothers of New York have been retained as landscape architects.

SAN BRUNO APARTMENTS

Messrs. Edwards and Schary, 605 Market Street, San Francisco, have completed plans for a two story and basement frame and stucco apartment building to cost $25,000 and to be built at San Bruno, San Mateo County, California. Prosper Bou is the general contractor.

SCOTTISH RITE CATHEDRAL

Plans have been completed in the office of Carl Werner and S. Heiman, associated, 605 Market Street, San Francisco, for the first unit of a Scottish Rite Cathedral to be built at Reno, Nevada. The estimated cost is $150,000.

BANK BUILDINGS

The office of A. F. Roller, architect of San Francisco, has been engaged in preparing plans for three bank buildings, one in Oakland, one in San Francisco and one in Redwood City.

PROVISIONAL CERTIFICATES

Provisional certificates to practice architecture in California were granted by the State Board of Architectural Examiners, southern district, January 28, to the following:

Welton David Becket, 801 S. Gramercy Dr., Los Angeles; Milton J. Black, 529 West Knoll Dr., Los Angeles; Gerald R. Colcord, 1538 Brighton Way, Los Angeles; Walter F. Fuesler, 539 N. Mansfield Avenue, Los Angeles; Richard F. King, 4515 Saturn Street, Los Angeles; Max Maltzman, 704 Union Bank Building, Los Angeles; Everett Ely Parks, 423 N. Claudina, Anaheim; Hayward Peirce, 3634 Jackdaw Street, San Diego; C. Waldo Powers, 318 W. Ninth Street, Los Angeles; Allen George Siple, 972 Arapahoe Street, Los Angeles; Raymond A. Sites, 427 Cedar Avenue, Long Beach; Lester G. Scherer, 1510 N. Vermont Avenue, Los Angeles; Don Uhl, 7024 Melrose Avenue, Los Angeles; William K. Webb, 1239 E. Tenth Street, Long Beach; Walter F. Zick, 135 N. Curtis Avenue, Alhambra; Theodore L. Pletsch, 146 S. Berkeley Avenue, Pasadena; Lloyd A. Steffgen, 51 S. Euclid Avenue, Pasadena.

ESTATES MERITED THE SHOWING

(From the *Palos Verdes Bulletin*)

The Architect and Engineer of San Francisco devotes fifty-one pages of its January number to reproductions of Palos Verdes architecture and articles on its progress by Chas. H. Cheney, J. C. Low, Jay Lawyer, David C. Allison and J. F. Dawson. This is the best and most complete showing of the Community's development yet made by any magazine and includes illustrations of the Malaga Cove, Valmonte and Lunada Bay Plazas and all of the houses selected last year by the Art Jury as the most notable on the Estates.

ARCHITECT GIVEN JUDGMENT

H. C. Baumann, architect of San Francisco, was given a judgment for $2,880 against Steve Carusa of Pittsburg by Superior Judge A. B. McKenzie in his claim for $5,700 architect fees, alleging that he had prepared plans for a $160,000 six-story building. Although the building was not constructed, Baumann demanded his fee, stating that he put in just as much work on the plans as he would have if the building had been built.

HARDWOOD DEALERS TO MEET

The annual meeting of the Pacific Coast Hardwood Dealers Association, will be held at Del Monte, March 20-24, inclusive. Jerry Sullivan, Jr., is president. The program will include talks on the hardwood industry by officials of the American Manufacturers' Institute, Walnut Manufacturers' Association, the California State Architects' Association, California Retail Lumber Dealers Association and the Millwork Institute.

APARTMENT HOUSE AND RESIDENCE

New work in the office of E. H. Denke, 1317 Hyde Street, San Francisco, includes a six story steel frame store and hotel building to be built on Hyde Street, near Turk, San Francisco, and a one story Spanish type restaurant, to be built on the State Highway, San Mateo. Bell Brothers are the owners of both buildings. The restaurant has been leased to Tait's, Inc.

KELSEYVILLE SCHOOL

Plans have been completed by William Herbert of Santa Rosa for a $35,000 high school building at Kelseyville, Lake County, California. Mr. Herbert has also completed plans for a new school building at Santa Rosa, consisting of an auditorium and three classrooms.

RUSSELL COLEMAN BUSY

New work in the office of Russell B. Coleman, Burlingame, includes an apartment house to cost $45,000 for A. J. Mullin; a residence in Hillsborough Hills for Brownlee Soward of Gilroy and a $30,000 house in Hillsborough in the Spanish type.

BRICK FACTORY

Plans have been completed in the office of Julius Kraft & Sons, Phelan Building, San Francisco, for a two story and basement, steel and brick factory for the California Supply Company. The site is the corner of 7th and Brannan Streets, San Francisco.

OAKLAND APARTMENT HOUSE

Chester H. Treichel, American Bank Building, Oakland, has completed plans for a three story frame and stucco apartment building to be erected on Park Boulevard, Oakland, at an estimated cost of $55,000. There will be eighteen apartments.

FOR HOME LOVERS

A beautiful and architecturally inspired booklet has been compiled by two Washington architects who are striving to give the public something fresh and new in home architecture. They hit on the idea of presenting simultaneously pictures of ideal and actual dwelling houses. The reader who is casually interested in home architecture or is definitely thinking of acquiring a home of his own, will find this dual presentation more inspiring and stimulating than the ordinary plan book —although this brochure is in a wood cut effect with striking poster treatment in three colors.

BRANCH BANK BUILDING

The Monterey County Trust and Savings Bank, Salinas, has been granted permission to open a branch at Castroville. Plans for a two-story building are being prepared by Stranahan and Butner, architects and engineers of Castroville.

Plans have been completed by the same architects for a two-story Spanish type store and apartment building to cost $60,000.

ALPINE HOTEL

The projected Alpine Hotel and Sanitarium, to be located at Warren's Well, near Morongo Valley, California, at a cost of $5,000,000, will be completed from plans by Albert H. Martin of Los Angeles.

There will be a 200-room Spanish type hotel and fifty 4-room cottages.

FORESTERS TO BUILD

Harold Stoner, architect, has moved to 220 Third Avenue, San Mateo. Mr. Stoner is preparing plans for a $75,000 fraternity building for the Independent Order of Foresters, to be erected on Valencia, near Market Street, San Francisco.

MONTEREY SCHOOLS

Plans have been approved by the Monterey School Board and Swartz and Ryland, 373 Main Street, Salinas, have started working drawings for a $265,000 expansion program for the Monterey Union High School District.

RESIDENCE AND APARTMENTS

The firm of Farr and Ward is very active at present in residence work, especially in Sea Cliff, San Francisco. They are also doing an apartment building in Carmel.

SOCIETY and CLUB MEETINGS

PRESIDENT AND VICE PRESIDENT OF AMERICAN INSTITUTE OF ARCHITECTS VISIT COAST CHAPTERS

THE Architect's Chapters of Seattle, Portland, San Francisco and Los Angeles, respectively, entertained the president of the American Institute, C. Herrick Hammond of Chicago and the vice president, James Monroe Hewlett of New York, during the past month. Banquets were tendered the visitors in each instance and the members were greatly enthused with the forceful addresses made by both Mr. Hammond and Mr. Hewlett.

Mr. Hammond paid a high tribute to the late Milton B. Medary for the work which he had done toward securing recognition for the American Institute of Architects at Washington and to Wm. Adams Delano, recently appointed a member of the National Capital Park and Planning Commission, who is carrying on his work. Mr. Hammond said that after 30 years practicing architects were on the eve of recognition in the planning and designing of Federal buildings. The Elliott bill, now pending in Congress, would give the Secretary of the Treasury authority to select private architects for such work. He had been advised by Mr. Delano that if this bill passed, the smaller buildings would be retained to keep the government architect's office busy. He warned that too much pressure at this time might be harmful to the interests of the architects.

Mr. Hammond referred to the work of the Producers' Council, composed of manufacturers and distributors of building supplies, in cooperation with the architects and said a meeting of the council with architects and contractors was about to be held which would take action assuring the architect of continuing leadership in the building industry.

In the course of his speech Mr. Hammond touched on the publicity work which the Institute is doing through its committee and urged that this work also be taken up by the Chapters. He referred to the recent convention of the Associated General Contractors at New Orleans and the action taken by that body in disclaiming responsibility for individual criticism of the architects by any of its members. He declared the relations between the architects and contractor generally were most friendly and that they would be further strengthened.

The unsightly billboard, which he declared marred the landscape along the highways, and the glaring electric signs which clutter the streets of cities, particularly on the Pacific Northwest, came in for denunciation at the hands of Mr. Hammond. He thought this was an evil which the architects should endeavor to overcome. He feared that because of the stories about his own home city—Chicago—he might be accused of casting stones. But he assured his auditors that Chicago was not as bad as it was pictured, and moreover was not bankrupt. It has, he said, a per capita debt only about one-third as large as that of New York City.

Mr. Hammond urged that the public be impressed with the fact that the present is a good time to build. It is too prone, he said, to buy when prices are high and neglect to take advantage of bargains. He declared that contracts had recently been let in Chicago for certain types of building at 42 cents a cubic foot which had cost ten years ago 65 cents a cubic foot.

James Monroe Hewlett, vice-president of the Institute, who is also president of the New York Chapter, spoke of the opportunities and the progressive, cooperative spirit of the architects on the Pacific Coast. In traversing Los Angeles and the country about he had noted the great open spaces about the beautiful buildings which he had seen and here were their opportunities to build more beautiful buildings.

Discussing the architectural trend which is influenced by a growing desire to create architecture more expressive of the times—more individualistic — he said that a revolution was quietly going on.

Mr. Hewlett told of the splendid work the American Institute of Architects has done in elevating the profession of architecture to its present high rank among the learned professions. "The Institute," he

said "is not, however, primarily for the profession itself, but for the advancement of architecture as an economic necessity. It is the responsibility of the present day architect to express in his buildings the civilization of this age, on which future generations will pass judgment. The necessity of utilizing in the process of building the constantly appearing new inventions, new materials, methods and processes, demands of the architect a technical and artistic knowledge scarcely equalled by any other profession.

"We have reached the point where reliance upon a knowledge of the old will not alone carry us on. We must combine with it the utilization of the present modes, and give to architecture new forms expressive of our own time." Mr. Hewlett urged the encouragement by architects of all craftsmen and manufacturers who are producing fine work and a cooperation of effort with all those engaged in building. "The architect is the conservator of beauty for all the people," he said.

NORTHERN CALIFORNIA CHAPTER

The January meeting of the Northern California Chapter, A. I. A., was held at the Clift Hotel on January 28th, at 6:30 P. M. President Frederick H. Meyer presided. The following members were present: Messrs. Jeans, Ashley, Coxhead, Wurster, McCool, Wyckoff, Birge Clark, Bakewell, Fairweather, Bruce, Upton, Farlow, Gutterson, Meyer, Kent, Klinkhardt, Ambrose, Evers, Garren, Roeth, Jorgensen, Maury, Angus McSweeney, Gillam, Allen, Michelsen, Donovan, Mitchell.

Announcement was made of the following changes in membership:

Elected to Associate Membership: Messrs. Thomas J. Kent, Chas. F. B. Roeth, Edwin L. Snyder, Louis Schalk and Angus McSweeney.

Elected from Chapter Membership to Honorary Associate: Arthur T. Ehrenpfort.

Resigned from Institute and Chapter membership: Walter C. Falch.

The calendar for the year, and programs as arranged for future meetings was read.

Following remarks by Mr. Ashley, a resolution was introduced by Mr. Allen, which was unanimously endorsed, namely:

BE IT RESOLVED, that the Northern California Chapter, of the American Institute of Architects considers that the economic interests of the Nation and of the building industry and the cause of good architecture will be best served by the employment of private firms in the localities affected, as architects of all federal office buildings and post offices.

The program for the evening was Building Investments.

"The Development of Building Projects" was the subject of Harry Allen, president of Allen and Company. He dealt with the four major phases to be considered, in any building investment, namely, determining if a need exists for the contemplated type of building; its strategic location; the income to be derived from the project; and the method of financing it.

The last item was very capably enlarged upon by C. Rodegerdts of S. W. Straus and Company who explained the "Financing of Building Projects." The various items of design, choice of materials, and maximum percentage of rentable areas, were presented as important factors in determining the financial success of the investment. An analysis of a typical business project had been prepared by him, showing the method of determining the size of the building proportioned to the demand for its particular usage, and continuing with cost estimates, financial set-up, income, expense of operation and return on the investment.

It was a privileged opportunity for the Chapter to have men who are leaders in their respective fields of realtor and financier, address us on a subject which is of such importance to all members of the profession. The very capable and interesting manner in which both speakers portrayed their investment phase of architecture was an extreme pleasure and of inestimable value to all present.—J. H. M.

OREGON CHAPTER

The February 18th meeting was held in the Multnomah Hotel, those present being Messrs. Johnson, Whitnew, Belluschi, Holford, Parker, Jacobberger, Roald, Legge, Doty, Brookman, Stanton, James, Logan, Herzog, Johnston, Bean, Church, Aandahl; Guests: Henry E. Reed, director of the Oregon Historical Society and Frederick W. Jones, editor of The Architect and Engineer.

On motion by Mr. Whitney, seconded by Jacobberger, and passed, it was resolved that the Chapter petition the Federal Treasury Department to the effect that a competition, to be conducted according to the rules of the American Institute of Architects, be held for the new Portland Federal Building.

Moved by Mr. Brookman, seconded by Mr. Stanton and passed, that the Chapter approach the proper authorities on the proposed Champoeg Memorial to the effect that the Chapter as a body be engaged as architects.

Mr. Jacobberger, chairman of the Legislation Committee, spoke briefly about proposed legislation for the Art Commission as drafted by a committee of the City club. This matter had previously been taken up by the executive committee and approved by them. This meeting also went on record approving the ideas as a whole and requested Jacobberger and his committee to be present when the ordinance is to be presented.

President Johnson read part of an editorial printed in the Oregon Journal of February 7 which referred to the resolution made by the American Institute of Architects regarding the retention of the old Post Office Building. Part of this resolution is as follows:

"It should be preserved because of the traditions surrounding it and because its architectural merit makes its destruction an act approaching vandalism. This building and the square on which it is located are of greater sentimental value to the State of Oregon and to the City of Portland than any private or commercial development of this property could possibly be. The state and the city are fortunate to have this old building, which in another generation will be looked on as an historic monument worthy of the greatest care."

A newspaper article appeared in the Sunday papers announcing that plans were being made for a market building to be built between the Morrison and Hawthorne bridges, east of Front Street and facing the river. This building, which, according to announcement, will start 100 feet south of Morrison bridge and continue for some 600 feet south, would jeopardize the water front development as outlined and fought for by the Chapter and Oregon Building Congress, and in view of the fact that the city government has appropriated $5,000 for the purpose of making a complete survey of the water front section in relation to this proposed development, the Chapter went on record opposing the construction of this building. It was moved, seconded and carried, that a petition be framed requesting the city council not to grant a permit for this or any other building until after such a time as the voters have had an opportunity to express their will.

Mr. Reed was then given the floor and was asked to further explain his plan for the retention of the Post Office Building. His plan, which hinges on the issuing of six million souvenir half dollars to be disposed of by the various societies interested in the building, received the hearty approval of the Chapter and the secretary was instructed to write the Oregon Historical Society recommending that they sponsor the idea.

SAN FRANCISCO ARCHITECTURAL CLUB

The February meeting of the San Francisco Architectural Club was held in the club rooms, 523 Pine Street. It was the first meeting under the new regime, with President Ted Ruegg presiding. It was very gratifying to see the number of so-called old timers present.

After the usual order of business, the new committees were introduced. W. B. "Hollowtile" Rue, chairman of the entertainment committee, spoke of his program for the near future and told of plans for a theater party in March and an initiation.

Rome Blas of the Atelier told of the progress the Atelier is making and of the great number of problems turned in. He also announced a class in History of Architecture which is to start soon. Ira Springer, editor of *The Esquisse*, the club's monthly publication, told of his plans for the expansion of same. He also reported on the trip to the Yosemite Portland Cement Company's plant, and the luncheons which are now being held every Thursday in the Wall Street Coffee Shop.

Robert Nordin, chairman of the exhibition committee, told of an exhibition of decorative tile to be held at the next meeting through the courtesy of Gladding, McBean Co.

Last, but not least, was an announcement by our house committee, Marcel Coutier, chairman, that we are to be properly fed this year.

Frederick H. Meyer, who recently returned from Europe, gave an instructive and interesting resume of his travels. As this was told from an architect's viewpoint, as well as in Mr. Meyer's frank and able manner, the talk was doubly interesting.

At the conclusion the members surrounded the lunch counter to do justice to the repast prepared by our new French chef.—A. N.

NEW PAYNE FURNACE DISTRIBUTOR

Rounding out its line of "All American" boilers, radiators, water heaters, etc., the Fox Furnace Company, 1123 Harrison Street, San Francisco, sales subsidiary of the American Radiator and Standard Sanitary Corporation, has been appointed Northern California distributor for Payne gas furnaces. The addition of the Payne furnace line is an important one for the Fox Furnace Company which is now likely to become a factor in the warm air heating and ventilating business in San Francisco and the bay region.

LOS ANGELES ARCHITECTURAL CLUB

The meeting of the Los Angeles Architectural Club on February 25th at the Elite was marked by the installation of new officers. Following an address by the retiring president the new officers were introduced to the members. They include: Sumner M. Spaulding, President; Fitch Haskell, Vice-President; Ralph Flewelling, Vice-President; George P. Hales, Vice-President; Luis Poyo, Vice-President; Rene Mussa, Secretary; Kemper Nomland, Treasurer.

Mr. Spaulding, in his initial appearance as president, stressed the necessity for a joint Council with the Institute and the State Association. He spoke of the importance of proper financial control in the Club and announced that Edwin Bergstrom, National Treasurer of the A. I. A. and a recognized authority on matters of finance, had agreed to act as a consultant in the establishment of a budget system.

Charles H. Cheney, chairman of the City and Regional Planning Commission, A. I. A., secretary of the Palos Verdes Art Jury, director of the National Conference of City Planning, and a member of the Hope Ranch Park Jury of Santa Barbara, entertained the club members with an interesting address on the development of Washington, D. C., pointing particularly to the need in every community of intelligent and comprehensive city planning.

At the conclusion of the meeting the universal opinion was that the system of city planning in Los Angeles is far from being above criticism.

SAN FRANCISCO CHAPTER

The regular monthly meeting of the Northern California Chapter was held at the Clift Hotel, San Francisco on the evening of February 25, President Frederick H. Meyer, presiding.

The following guests were present: Messrs. Harry Dixon, Simeon Pelenc, John Quinn, Howard Gilkey, Professor John W. Gregg, Thos. D. Church, Lee Randolph, Spencer Mackey, Horace Cotton, Edgar Walter, J. Gould, Mr. Wilson and Mr. Mick.

Announcement was made of the transfer to the Northern California Chapter of Stanton Willard, formerly of the Southern California Chapter.

There were no business matters for consideration, and President Meyer turned the meeting over to Mr. Gutterson, who presided thereafter as chairman of the evening.

The general subject as previously announced in the Chapter Calendar was "Allied Arts."

Enlarging upon the general theme, a most interesting series of short talks was presented by leaders in the various allied fields, covering landscape architecture, sculpture, painting, decoration, metal works and ceramics.

A general outline of the subjects and speakers follows:

LANDSCAPE ARCHITECTURE:

"Modern Problems in Garden Design"—Thos. D. Church, M. L. A.

"Ethics of the American Society of Landscape Architects"—Howard Gilkey, L. A.

CO-OPERATION IN THE ALLIED ARTS:

"Co-operation in the Allied Arts"—Spencer Mackey, Executive director of California School of Fine Arts.

"Architectural Sculpture"—With special reference to Ransohoffs—Edgar Walter.

"Wall Decoration"—With special reference to Murals—Paper by Maynard Dixon. To Sgraffito and Fresco—Simeon Pelenc.

"Interiors"—John Quinn.

"Metal Work"—Harry Dixon.

"Ceramics"—Stanton Willard. —J. H. M.

PERSONALS

Announcement is made that S. R. BURNS has retired from the firm of Hunt & Burns, architects, of Los Angeles. The practice will be continued by Sumner P. Hunt, under his own name, at the same address, seventh floor, Laughlin Building, Los Angeles.

WILLIAM MOOSER COMPANY, architects, announce the removal of their offices from the Nevada Bank Building to the Foxcroft Building, 68 Post Street, San Francisco.

JOHN STAFFORD WHITE, architect, has moved to to 521 Irving Avenue, Glendale, California.

HERBERT A. SCHMIDT

Herbert A. Schmidt, 43, architect, died suddenly while attending the annual dinner of the Bohemian Club in San Francisco.

Mr. Schmidt was born in Alameda and was the son of A. H. Schmidt, an official of the San Francisco Savings Bank. He was a student at the University of California and graduated in architecture from the University of Pennsylvania.

COMPETITIONS

TWO SCHOLARSHIPS

Two scholarships of four hundred dollars each are offered in the academic year 1930-31 for special students in the third or fourth year of the course in Architecture at the Massachusetts Institute of Technology. They will be awarded as the result of a competition in design under the direction of the Committee on Design in the Department of Architecture.

The competition is open to citizens of the United States of good character, who are between twenty-one and twenty-eight years of age, and who have had at least three years of office experience.

The competition will be held from May 17 to May 26.

Applications should be received on or before April 14, addressed to Professor William Emerson, 491 Boylston Street, Boston, Mass.

A. W. BROWN SCHOLARSHIP

Announcement is made of the third competition for the selection of a beneficiary for the A. W. Brown Travelling Scholarship, this competition to be held under the direction of a committee of the American Institute of Architects. Programs will be mailed to approved applicants about March 14th, drawings to be delivered a month later.

This Scholarship is the gift of Ludowici-Celadon Company and is a memorial to the late A. W. Brown, who was for many years president of that company.

Those wishing to compete should write for application blanks to the secretary of the committee, Wm. Dewey Foster, 25 West 45th Street, New York.

ARCHITECTS AND SALESMEN

Architects are usually busy men. They have no time to waste. The salesman who comes to sell and remains to visit, makes a mistake unless the architect plainly indicates that he wants to visit. Perhaps an architect may accept a situation thus thrust upon him. But it is no indication that he relishes it. When the visitor is gone the architect may think regretfully of the neglected work awaiting him, and may register a silent vow to communicate with a competing sales organization when in need of that type of material or equipment.

The salesman who visits an architect should have a new idea, something worth while, for presentation when possible. Successful architects are successful because they are receptive to new ideas while retaining the best old ones. The salesman who calls on an architect is much more welcome if he can convey information of value.

Incidentally, architects who close their eyes and ears to new ideas are not apt to create a very big ripple in the architectural world. It is said of Theodore Roosevelt that he was an adept in drawing ideas from men. He talked to all classes and types from professional pugilists to world-famed scientists. He drew from each man's store of knowledge. He discarded the husks and retained the grain of valuable information. But Theodore Roosevelt had no time or inclination for idle chatter. He was wonderfully receptive to information on a myriad subjects from whatsoever sources he could gather it. But he denied himself to bores. Therein lay much of the secret of Theodore Roosevelt's wonderful versatility. He opened the doors to the man who had knowledge to impart. He closed the doors to banality.

The salesman who has only banalities to offer his fellow men is at best an order-taker, not a salesman. On the other hand, the architect who denies himself to salesmen who have valuable information to impart is narrowing his horizon and lessening his value to his clients.—*Improvement Bulletin.*

GREAT WESTERN EXPANSION PROGRAM

Expenditures for electrical service in Northern California and the San Francisco Bay district, amounting to $10,474,109, are to be made by the Great Western Power Company during 1930, according to A. Emory Wishon, vice president and general manager of the company. Construction of new facilities calls for the investment of $7,007,036. Operating expenses, including taxes, are estimated to amount to $3,467,073.

Additions and improvements to the transmission and distribution systems are the principal features of the construction program for this year. New substation capacity is to be added in San Francisco, Hayward and Sacramento.

Providing for the building of a new substation, a switching station at Moraga, and several transmission and distribution lines, the Hayward Substation project on which work was started during the past month, is the largest single item of the construction budget. Approximately $1,500,000 is to be invested in this work.

Additional service capacity for the business district of San Francisco is to be provided with the building of a two-story annex to Bush Street substation, doubling the present installation. This work will cost about $500,000. Weeks and Day are the architects.

« CLASSIFIED LIST of ADVERTISERS for ARCHITECT'S REFERENCE »

ALPHABETICAL LIST OF ADVERTISERS ON PAGE 162

ACOUSTIC CORRECTIONS
Johns-Manville Company, all principal Coast cities.
R. Guastavino Co., represented by Albert B. Mann, Engineer, 417 Crocker Bldg., San Francisco.
"Acousti-Celotex," Western Asbestos Magnesia Co., 25 South Park, San Francisco.

AIR COMPRESSORS
Dayton, sold by Simonds Machinery Co., 816 Folsom Street, San Francisco; 520 East 4th Street, Los Angeles.

ACOUSTIC DEADENING
American Hair & Felt Co., 1615 Ditman St., Los Angeles.

AMMONIA AND CARBON DIOXIDE COMPRESSORS, COLD STORAGE FOR HOTELS, HOSPITALS, ETC.
Edwards Ice Machine & Supply Co., Oakland, Seattle and Portland.

ART METAL
Federal Ornamental Iron and Bronze Co., 16th St. and San Bruno Ave., San Francisco.
Michel & Pfeffer Iron Works, 1415 Harrison Street, San Francisco.

ARCHITECTURAL ENCAUSTIC TILE
Mangrum-Holbrook Co., Inc., 1235 Mission Street, San Francisco.

ARCHITECTURAL BRONZE
Elevator Supplies Company, Inc., Hoboken, N. J.; 186 Fifth Street, San Francisco; 1120 S. Hope Street, Los Angeles.

ARCHITECTURAL TERRA COTTA
N. Clark & Sons, 116 Natoma Street, San Francisco.
Gladding, McBean & Co., 660 Market St., San Francisco; 621 S. Hope St., Los Angeles; 1500 First Ave. South, Seattle; 454 Everett St., Portland; 15th and Dock Sts., Tacoma, and 22nd and Market Sts., Oakland.
W. S. Dickey Clay Mfg. Co., San Francisco and Oakland.

ASBESTOS MATERIALS
Johns-Manville, Inc., of California, 159 Montgomery St., San Francisco. Coast Factory at Pittsburg, Calif.
Western Asbestos Magnesia Company, 25 South Park, San Francisco.

ASPHALT ROOFING
El Rey Products Company, 1633 San Pedro St., Los Angeles; 960 Seventh St., San Francisco; 65 Columbia St., Seattle; 850 E. Taylor St., Portland.
The Paraffine Companies, Inc., San Francisco, Oakland, Los Angeles, Portland and Seattle.

BATHROOM ACCESSORIES
The Mosaic Tile Co., Zanesville, Ohio; West Coast Offices: E. K. Porter, 568-7th St., San Francisco; O. M. Bendure, 2470 Enterprise St., Los Angeles.

BEDS—WALL—CONCEALED, ETC.
Marshall & Stearns Co., Phelan Bldg., San Francisco.

BLACKBOARDS
C. F. Weber & Co., 654 Second St., San Francisco, Los Angeles and Reno, Nevada.

BOILERS
Kewanee Boiler Co., 637 Minna St., San Francisco.
Kewanee Water Supply System. Simonds Machinery Co., 816 Folsom St., San Francisco.
Consolidated Steel Corporation, 1200 N. Main St., Los Angeles.

BONDS FOR CONTRACTORS
Bonding Company of America, Kohl Bldg., San Francisco.
Globe Indemnity Co., 444 California St., San Francisco.
Fidelity & Casualty Co. of New York, Balfour Bldg., San Francisco.
Standard Accident Insurance Company, California Commercial Union Building, San Francisco.

BRICK—FACE, COMMON, ENAMEL, GLAZED
Gladding, McBean & Co., 660 Market St., San Francisco; 621 S. Hope St., Los Angeles; 1500 First Ave. South, Seattle; 454 Everett St., Portland; 15th and Dock Sts., Tacoma, and 22nd and Market Sts., Oakland.
N. Clark & Sons, 116 Natoma Street, San Francisco.
W. S. Dickey Clay Mfg. Co., San Francisco and Oakland.
Port Costa Brick Works, 6th and Berry Sts., San Francisco.
McNear Brick Company, Monadnock Bldg., San Francisco.
Richmond Pressed Brick Co., Sharon Bldg., San Francisco. Plant at Richmond, Calif.
Cannon & Co., Sacramento; 517 Call Bldg., San Francisco; Builders Exchange Bldg., Oakland.

BRICK AND CEMENT COATING
The Paraffine Companies, Inc., 475 Brannan St., San Francisco.

BUILT-IN FURNITURE
Built-in Fixture Company, 2608 San Pablo Ave., near Dwight Way. Berkeley, and Hoosier Store, Pacific Bldg., San Francisco.

BUILDERS' HARDWARE
"Corbin" hardware, sold by Palace Hardware Company, 581 Market St., San Francisco.

BUILDING MATERIALS
The Sisalkraft Company, 205 W. Wacker Drive, Chicago, Ill.; 55 New Montgomery St., San Francisco and Hammond Lumber Co., Los Angeles.

BUILDING PAPERS
El Rey Products Company, 1633 N. San Pablo Street, Los Angeles; 960 Seventh Street, San Francisco; 65 Columbia Street, Seattle; 850 E. Taylor St., Portland, Ore.
The Paraffine Companies, Inc., San Francisco, Los Angeles, Portland and Seattle.
Pacific Materials Co., 444 Market St., San Francisco.

CARPETS AND RUGS—IMPORTED
Kent-Costikyan, Inc., 485 Fifth Ave., New York City, with offices at 442 Post St., San Francisco and 816 South Figueroa St., Los Angeles.

CEMENT
Pacific Portland Cement Co., Hunter-Dulin Bldg., San Francisco, also Portland, Ore., Los Angeles and San Jose, Calif.
Santa Cruz Portland Cement Company, Crocker Building, San Francisco.

CEMENT EXTERIOR WATERPROOF PAINT
Bass-Heuter Paint Company, San Francisco, Los Angeles, Portland, Seattle.
The Paraffine Companies, Inc., San Francisco, Los Angeles, Portland and Seattle.

CEMENT TESTS—CHEMICAL ENGINEERS
Robert W. Hunt Co., 251 Kearny St., San Francisco.

CLAY PRODUCTS
N. Clark Sons, 116 Natoma St., San Francisco.
Cannon & Co., Sacramento, Calif.; 517 Call Bldg., San Francisco.
W. S. Dickey Clay Mfg. Co., San Francisco and Oakland.
Gladding, McBean & Co., 660 Market St., San Francisco; 621 S. Hope St., Los Angeles; 1500 First Ave. South, Seattle, 454 Everett St., Portland; 15th and Dock Sts., Tacoma, and 22nd and Market Sts., Oakland.
United Materials Co., Sharon Bldg., San Francisco.

COMPOSITION ROOFING
El Rey Products Company, 1633 San Pedro St., Los Angeles; 960 Seventh St., San Francisco; 65 Columbia St., Seattle; 850 E. Taylor St., Portland.
The Paraffine Companies, Inc., San Francisco, Oakland, Los Angeles, Portland and Seattle.

CONCRETE CURING AND PROTECTION
The Sisalkraft Company, 205 W. Wacker Drive, Chicago, Ill.; 55 New Montgomery St., San Francisco and Hammond Lumber Co., Los Angeles.

CONCRETE OR CEMENT HARDENER
Gunn, Carle & Co., Inc., 444 Market St., San Francisco.

CONCRETE REINFORCING
Soule Steel Company, Rialto Bldg., San Francisco.
Gunn, Carle & Co., Inc., 444 Market St., San Francisco.
Clinton Welded Wire Fabric, Wickwire-Spencer Steel Corporation, 144 Townsend St., San Francisco.
National Steel Fabric Co., Pittsburgh, Pa.; 351 Bryant Street, San Francisco; 1358 Wholesale Street, Los Angeles; Seattle and Portland.

CONSERVATORIES
Lord & Burnham Co., Irvington, N. Y., and 208 So. LaSalle St., Chicago, Ill.

CONTRACTORS—GENERAL
Spivock & Spivock, Hobart Building, San Francisco, and 412 Water St., Oakland.
Vogt & Davidson, Inc., 185 Stevenson St., San Francisco, and Builders Exchange, Oakland.
K. E. Parker Company, Inc., 135 South Park, San Francisco.
Barrett & Hilp, 918 Harrison St., San Francisco.
Lindgren & Swinerton, Inc., Standard Oil Building, San Francisco.
R. W. Littlefield, 337 17th St., Oakland.
Dinwiddie Construction Co., Crocker Bldg., San Francisco.
Clinton Construction Company, 923 Folsom St., San Francisco.
Monson Bros., 475 Sixth St., San Francisco.
McLaren & Co., R., Hearst Bldg., San Francisco.
Chas. D. Vezey & Sons, Builders Exchange Bldg., Oakland.
Jacks & Irvine, Call Bldg., San Francisco.
Industrial Construction Company, 815 Bryant St., San Francisco.
Anderson & Ringrose, 320 Market St., San Francisco.
G. P. W. Jensen, 320 Market St., San Francisco.
G. W. Williams Co., 1404 Broadway, Burlingame, Calif.
The Dyer Construction Company, 1924 Broadway, Oakland.

CORK TILE
Congoleum-Nairn, Inc., D. N. & E. Walter & Co., San Francisco, and Broadway Department Store, Los Angeles.
Van Fleet-Freear Company, 557 Howard St., San Francisco, and 420 S. Spring St., Los Angeles.

CRIBBING FOR RETAINING WALLS
Massey Concrete Products Corporation, Colton, Calif., and Spokane, Wash.

DAMP-PROOFING
The Sisalkraft Company, 205 W. Wacker Drive, Chicago, Ill.; 55 New Montgomery St., San Francisco and Hammond Lumber Co., Los Angeles.

DAMP-PROOFING AND WATER-PROOFING
Western Asbestos Magnesia Company, 25 South Park, San Francisco.
The Paraffine Companies, Inc., San Francisco, Oakland, Los Angeles, Portland and Seattle.
Gunn, Carle & Co., 444 Market St., San Francisco.

DEADENING MATERIAL
"Insulite" Western Asbestos Magnesia Co., 25 South Park, San Francisco.
The Paraffine Companies, Inc., San Francisco, Oakland, Los Angeles, Portland and Seattle.
Gunn, Carle & Co., 444 Market St., San Francisco.
"Torfoleum," distributed by Mailliard & Schmiedell, 203 California St., San Francisco.

DOOR CHECKS—CONCEALED
The Condor Company, 58 Sutter St., San Francisco.

DOOR CLOSERS
Norton door closer, sold by Nissen-Currier Co., 265 Minna St., San Francisco, and 302 Colo Bldg., Los Angeles.

DOORS—FIREPROOF
Detroit Steel Products Company, 251 Kearny St., San Francisco.
Kinnear Mfg. Co., represented by Gunn, Carle & Co., 444 Market St. San Francisco.

DOORS—FREIGHT ELAVATOR
The Peelle Co., Brooklyn, N. Y., represented by Persons Dwan & Co., 534 Sixth St., San Francisco.

DOORS—HOLLOW METAL
Fire Protection Products Co., 1101 16th St., San Francisco.
Dahlstrom Metallic Door Co., Jamestown, N. Y. Coast plant, 3350 E. Slauson Ave., Los Angeles.
Forderer Cornice Works, Potrero Ave., San Francisco.

DOORS—ROLLING
Kinnear rolling steel doors, sold by Gunn, Carle & Co., 444 Market St., San Francisco.

DRAIN PIPE AND FITTINGS
"Corrosiron" Acid Proof, manufactured by Pacific Foundry Co., Harrison and 18th Sts., San Francisco.

DRAPERIES AND WINDOW SHADES
D. N. & E. Walter & Co., 562 Mission St., San Francisco.

DRAWING PENCILS
A. W. Faber Company, Newark, N. J., represented by Cahen, Davis & Company, 313 Severance Bldg., Los Angeles, Calif.

DRINKING FOUNTAINS
Haws Sanitary Drinking Faucet Co., 1808 Harmon St., Berkeley, and C. F. Weber & Co., San Francisco and Los Angeles.

« CLASSIFIED LIST of ADVERTISERS for ARCHITECT'S REFERENCE »

ALPHABETICAL LIST OF ADVERTISERS ON PAGE 162

Standard-Pacific Plumbing Fixtures, 349 Sutter St., San Francisco; 919 W. 7th St., Los Angeles; 1301 5th Ave., Seattle, Wash.; 48 5th St., Portland, Ore.

DUMB WAITERS

Spencer Elevator Company, 166 7th St., San Francisco.
Elevator Supplies Co., Inc., Hoboken, N. J.; 186 Fifth Street, San Francisco.

ELECTRICAL CONTRACTORS

Butte Electrical Equipment Company, 2014 Folsom St., San Francisco.
Charles A. Langlais, 472 Tehama St., San Francisco.
H. C. Reed & Co., 389 Clementina St., San Francisco.

ENGINEERS—CONSULTING, ELECTRICAL, MECHANICAL

Hunter & Hudson, 41 Sutter St., San Francisco.
Charles T. Phillips Company, Bank of Italy Bldg., San Francisco, and Roberts Bldg., Los Angeles.

ELECTRIC AIR AND WATER HEATERS

Majestic Electric Appliance Company, 590 Folsom St., San Francisco.
Sandoval Sales Company, 557 Market St., San Francisco.
Weir Electric Appliance Company, 26th and Adeline Sts., Oakland.
Wesix electric air heaters, manufactured and distributed by Wesix, Inc., 390 First St., San Francisco.

ELECTRIC REFRIGERATION

General Electric Refrigerator, George Belsey Company, Los Angeles, Distributor; Stores in Los Angeles, Pasadena, Glendale, Hollywood, Santa Monica and Monrovia; L. H. Bennett, Northern California Distributor, 2112 Broadway, Oakland; 318 Stockton St., San Francisco.

ELECTRICAL SUPPLIES and EQUIPMENT

The Frink Company, 10th Ave. at 24th St., New York; 77 O'Farrell St., San Francisco.
Drendell Electrical & Mfg. Co., 1345 Howard St., San Francisco.
Frank Adam Electric Company, 340 Fremont St., San Francisco, and 1127 Wall St., Los Angeles; general offices, St. Louis, Mo.
Westinghouse Electric & Manufacturing Company, East Pittsburgh, Pa., and Crocker First National Bank Bldg., San Francisco.
Sterling Bronze Co., Inc., 18 East 40th St., New York.

ELECTROLIERS

Northern Street Lighting Company 389 Clementina St., San Francisco.

ELEVATOR ENTRANCE DOORS

Dahlstrom Metallic Door Company, Jamestown, N. Y., Pacific Coast plant, 3350 East Slauson Ave., Los Angeles.

ELEVATORS—PASSENGER AND FREIGHT

Otis Elevator Company, Stockton and North Point, San Francisco.
Spencer Elevator Company, 166 Seventh St., San Francisco.
Westinghouse Electric and Manufacturing Company, Crocker First National Bank Bldg., San Francisco, general offices and works, East Pittsburgh, Pa.
Consolidated Steel Corporation, 1200 N. Main St., Los Angeles.

ELEVATOR SIGNALS, DOOR EQUIPMENT

Elevator Supplies Co., Inc., Hoboken, N. J.; 186 Fifth Street, San Francisco.
The Peelle Co., Brooklyn, N. Y.; represented by Persons Dwan & Co., 534 Sixth St., San Francisco.

ENAMELS

Gold Seal Enamel—Bass-Heuter Paint Company, San Francisco, Los Angeles, Portland, Seattle.

EXIT DEVICES

Von Duprin, manufactured by Vonnegut Hardware Company, Indianapolis; sold by D. A. Pancoast Co., 605 Market St., San Francisco.

FAIENCE TILE

The Mosaic Tile Co., Zanesville, Ohio; West Coast Offices: E. K. Porter, 568-7th St., San Francisco; O. M. Bendure, 2470 Enterprise St., Los Angeles.

FENCES WIRE AND IRON

Michel & Pfeffer Iron Works, Harrison and Tenth Sts., San Francisco.

FIRE EXTINGUISHING APPARATUS

"Lux" System, represented by Hough and Egbert, Inc., 519 Robert Dollar Bldg., San Francisco.

FIRE DETECTING APPARATUS

"Derby" and "Selex" Systems; represented by Hough and Egbert, Inc., 519 Robert Dollar Bldg., San Francisco.

FIRE ESCAPES

Michel & Pfeffer Iron Works, 1415 Harrison St., San Francisco.
Palm Iron & Bridge Works, Sacramento.
Western Iron Works, 141 Beale St., San Francisco.

FIRE SPRINKLERS—AUTOMATIC

Grinnell Company of the Pacific, Fifth and Brannan Sts., San Francisco.

FIXTURES—BANK, OFFICE, STORE, ETC.

Home Manufacturing Company, 552 Brannan St., San Francisco.
Mullen Manufacturing Co., 64 Rausch St., San Francisco.
Pacific Manufacturing Company, San Francisco, Los Angeles, Oakland and Santa Clara.
The Fink & Schindler Co., 228 13th St., San Francisco.

FLOORS—CORK, LINOLEUM, ETC.

Congoleum-Nairn, Inc., D. N. & E. Walter & Co., San Francisco, and Broadway Department Store, Los Angeles.
The Paraffine Companies, Inc., San Francisco, Oakland, Los Angeles, Portland and Seattle.

FLOORS—REDWOOD BLOCK

Redwood Block Floor Company, Bryant at 18th St., San Francisco.

FLOOR CLIPS

Bull Dog Floor Clip Co., 557 Market St., San Francisco and Hibernian Bldg., Los Angeles.

FLOORS—HARDWOOD

Inlaid Floor Company, 600 Alameda St., San

FLOOR TILE

The Mosaic Tile Co., Zanesville, Ohio; West Coast Offices: E. K. Porter, 568-7th St., San Francisco; O. M. Bendure, 2470 Enterprise St., Los Angeles.
"Perfection" Brand Oak Flooring, Arkansas Oak Flooring Co., Pine Bluff, Arkansas.
Cellized Oak Flooring, Inc., Memphis, Tenn. Represented by Geo. H. Brown Hardwood Company, Oakland.

FREIGHT ELEVATOR DOORS

The Peelle Co., Brooklyn, N. Y., represented by Persons Dwan & Co., 534 Sixth St., San Francisco.

FURNITURE—OFFICE, SCHOOL, CHURCH, THEATER

The Fink & Schindler Co., Inc., 218-68 13th St., San Francisco.
Home Mfg. Co., 552 Brannan St., San Francisco.
Mullen Mfg. Co., 64 Rausch St., San Francisco.
C. F. Weber & Co., San Francisco, Los Angeles, and Phoenix, Ariz.

GENERAL CONTRACTORS

Spivock & Spivock, Hobart Bldg., San Francisco.
Young & Horstmeyer, 461 Market St., San Francisco.

GLASS

Cobbledick-Kibbe Glass Co., 666 Howard St., San Francisco.

GRAVEL AND SAND

Del Monte white sand, Del Monte Properties Co., Crocker Building, San Francisco.

GREENHOUSES

Lord & Burnham Co., Irvington, N. Y., and 208 S. La Salle St., Chicago, Ill.

GYMNASIUM EQUIPMENT—LOCKERS, ETC.

Ellery Arms Co., 583 Market St., San Francisco.

HARDWARE

Vonnegut hardware, sold by D. A. Pancoast Company, 605 Market St., San Francisco.
Palace Hardware Company, 581 Market St., San Francisco.
Sargent Hardware distributed by E. M. Hendley, 662 Mission St., San Francisco.

HARDWOOD LUMBER

G. H. Brown Hardwood Lumber Co., 47th Ave. at E. 12th St., Oakland.
White Brothers, 5th and Brannan Sts., San Francisco; 500 High St., Oakland.

HEATING—COAL FURNACE

Montague Range & Furnace Company, 376 Sixth St., San Francisco.

HEATING—ELECTRIC,

Apex Air and Water Electric Heaters, Sandoval Sales Company, 557 Market St., San Francisco.
Majestic Electric Appliance Co. (bathroom heater), 590 Folsom St., San Francisco.
Weir Electric Appliance Company, 26th and Adeline Sts., Oakland.
Wesix electric air heaters, manufactured and distributed by Wesix, Inc., 390 First St., San Francisco.

HEATING—STEAM

Warren Webster & Company, Sharon Bldg., San Francisco, and 306 Crocker St., Los Angeles.

HEATING CONTRACTORS

Gilley-Schmid Company, 198 Otis St., San Francisco.
Hateley & Hateley, Mitau Bldg., Sacramento.
Mangrum & Otter, 827-831 Mission St., San Francisco.
W. H. Picard, 5656 College Ave., Oakland.
Luppen & Hawley, 3126-J St., Sacramento.
William F. Wilson Co., 240 Fourth St., San Francisco.
James A. Nelson, Inc., Howard and Tenth Sts., San Francisco.
Scott Company, 243 Minna St., San Francisco.
Geo. A. Schuster, 4712 Grove St., Oakland.

HEATING EQUIPMENT

E. A. Cornely, Inc., 1452 Bush St., San Francisco.
Illinois Engineering Co., 417 Market St., San Francisco.
Warren Webster & Company, Sharon Bldg., San Francisco, and 306 Crocker St., Los Angeles.
James A. Nelson, Inc., Howard and Tenth Sts., San Francisco.
B. F. Sturtevant Co., Monadnock Bldg., San Francisco; Los Angeles, Portland, Seattle.
C. A. Dunham Company, Dunham Bldg., 450 Ohio St., Chicago, and principal Coast cities.

HOLLOW BUILDING TILE (Burned Clay)

Cannon & Co., plant at Sacramento; Call Bldg., San Francisco.
N. Clark & Sons, 112-116 Natoma St., San Francisco; works, West Alameda, Calif.
Gladding, McBean & Co., 660 Market St., San Francisco; 621 S. Hope St., Los Angeles; 1500 First Ave. South, Seattle; 454 Everett St., Portland; 15th and Dock Sts., Tacoma, and 22nd and Market Sts., Oakland.
W. S. Dickey Clay Mfg. Co., San Francisco and Oakland.

HOME BUILDERS

G. W. Williams Co., 1404 Broadway, Burlingame, Calif.

HOSE

The American Rubber Mfg. Co., Park Ave. and Watts St., Oakland, Calif.

HOSE RACKS AND REELS

American Rubber Mfg. Co., San Francisco, Oakland, Los Angeles and Portland, Ore.

HOSPITAL SIGNAL SYSTEMS

Chicago Signal Co., represented by Garnett Young & Co., 390 Fourth St., San Francisco.

ICE RINK CONSTRUCTION

The Dyer Construction Company, 1924 Broadway, Oakland.

INCINERATORS

The Goder, sold by M. E. Hammond, 557 Market St., San Francisco.
Kewanee Boiler Co., 637 Minna St., San Francisco.

INDUSTRIAL LIGHTING EQUIPMENT

Westinghouse Electric and Mfg. Co., East Pittsburgh, Pa., and Crocker First National Bank Bldg., San Francisco.

INSPECTIONS AND TESTS

Robert W. Hunt Co., 251 Kearny St., San Francisco.

INSULATION

"Insulex" manufactured by Pacific Portland Cement Co., Hunter-Dulin Bldg., San Francisco, and 1200 Chapman Bldg., Los Angeles.
Western Asbestos Magnesia Co., 25 South Park, San Francisco.
Gunn, Carle & Co., 444 Market St., San Francisco.
"Torfoleum," distributed by Mailliard & Schmiedell, 203 California St., San Francisco.
Ric-wil distributed by H. G. Sperry Co., 74 New Montgomery St., San Francisco.

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INSULATED WIRE
Hazard Insulated Wire Works, Wilkes-Barre, Pa., Russ Building, San Francisco, Seattle and Los Angeles.

INTERIOR DECORATORS
S. & G. Gump Company, 246 Post St., San Francisco, and Honolulu, T. H.

KITCHEN EQUIPMENT
General Electric Refrigerator, L. H. Bennett, Rialto Building, San Francisco, and the George Belsey Company, Architects Building, Los Angeles.
James A. Nelson, Inc., Howard and Tenth Sts., San Francisco.
Mangrum Holbrook Company, 1235 Mission St., San Francisco.
McCray Refrigerator Sales Corp., Kendalville, Indiana; San Francisco office, 765 Mission Street.

LACQUERS
The Paraffine Companies, Inc., San Francisco, Los Angeles, Oakland, Portland and Seattle.
Bass-Hueter Paint Company, San Francisco, and all principal Coast cities.
"Nitrolac" manufactured by R. N. Nason & Co., 151 Potrero Ave., San Francisco.

LANDSCAPE ARCHITECTS
Neal T. Childs, Menlo Park, California.

LATHING MATERIAL—WIRE, METAL, ETC.
Genfire Steel Co., Sheldon Bldg., San Francisco; Builders' Exchange, Oakland.
Truscon Steel Co., Sharon Building, San Francisco.
Soule Steel Company, Rialto Building, San Francisco, and Los Angeles.
"Steeltex" manufactured by National Steel Fabric Co., Pittsburgh, Pa.; 351 Bryant Street, San Francisco. 1358 Wholesale Street, Los Angeles; Seattle and Portland.

LAUNDRY MACHINERY AND EQUIPMENT
Troy Laundry Mach'y Co., Ltd., East Moline, Ill., and 951 Mission St., San Francisco.
Gunn, Carle & Co., 444 Market St., San Francisco.

LIGHTING FIXTURES, OUTLETS, ETC.
Westinghouse Electric and Mfg. Co., Crocker First National Bank Bldg., San Francisco; general offices and works, East Pittsburgh, Pa.
The Frink Company, 369 Lexington Avenue, New York, and principal Coast cities.
Sterling Bronze Co., Inc., 18 East 40th St., New York.

LINOLEUM
William Volker & Co., 631 Howard St., San Francisco, and 2301 E. 7th St., Los Angeles.
The Paraffine Companies, factory in Oakland; office, 475 Brannan Street, San Francisco.
W. & J. Sloane, 216 Sutter Street, San Francisco.
Van Fleet-Freear Company, 557 Howard St., San Francisco, and 3307 Wilshire Boulevard, Los Angeles.
Bonded Floors—Sealex Linoleum and Tile manufactured by Congoleum-Nairn, Inc., D. N. & E. Walter & Co., San Francisco; Broadway Department Store, Los Angeles.

LUMBER
G. H. Brown Hardwood Company, 1044 47th Ave., Oakland.
Pacific Mfg. Co., San Francisco, Oakland, Los Angeles and Santa Clara.
Santa Fe Lumber Co., 16 California St., San Francisco.
Sunset Lumber Company, First and Oak Sts., Oakland.
E. K. Wood Lumber Co., Frederick and King Streets, Oakland.
Port Orford Cedar Products Co., Marshfield, Oregon, represented by Dent & Russell, Inc., Porter Bldg., Portland, Oregon.

MAIL CHUTES
Cutler Mail Chute Co., represented by Price Building Specialties Co., 683 Howard St., San Francisco and Continental Building Specialties Co., 1216 Hibernian Bldg., Los Angeles.

MARBLE
American Marble Company, 25 Columbus Square, San Francisco.
Clervi Marble Company and Mosaic Co., 1721 San Bruno Avenue, San Francisco.
Ray Cook Marble Company, foot of Powell St., Oakland.
Joseph Musto Sons-Keenan Co., 535 N. Point St., San Francisco.
Vermont Marble Co., Coast branches, San Francisco, Los Angeles and Tacoma.
Tompkins-Kiel Marble Company, 505 Fifth Ave., New York, also Chicago, Philadelphia and San Francisco.

MASONRY ANCHORS
Steelform Contracting Company, Monadnock Bldg., San Francisco; Edwards & Wildey Bldg., Los Angeles.

METAL COVERED DOORS
Fire Protection Products Co., 1101 Sixteenth St., San Francisco.
Forderer Cornice Works, Potrero Ave., San Francisco.

MILLWORK
The Fink & Schindler Co., Inc., 218-68 13th St., San Francisco.
Pacific Mfg. Co., San Francisco, Los Angeles, Oakland and Santa Clara.
Sunset Lumber Company, First and Oak Streets, Oakland.
Lannom Bros. Mfg. Co., Fifth and Magnolia Sts., Oakland.
Chicago Lumber Company of Washington, 66th and 69th Aves. and Spencer Street, Oakland.
E. K. Wood Lumber Co., Frederick and King Streets, Oakland.

MONEL METAL
"Inco" brand, distributed on the Pacific Coast by the Pacific Foundry Company, Harrison and 18th Streets, San Francisco, and Eagle Brass Foundry, Seattle, Wash.

OBJECTS OF ART
S. & G. Gump Company, 246 Post St., San Francisco, and Honolulu, T. H.

OIL BURNERS
Rayfield Oil Burner, Coast Distributors, E. A. Cornely, Inc., 1452 Bush Street, San Francisco.
S. T. Johnson Company, 1337 Mission St., San Francisco; 940 Arlington St., Oakland; 1729 Front St., Sacramento, and 230 N. Sutter St., Stockton.
Vaughn-G. E. Witt Co., 4224-28 Hollis Street, Emeryville, Oakland.
Ray Burner Company, 170 Sutter St., San Francisco, and 2206 San Pablo Ave., Oakland.
Coen Company, 112 Market Street, San Francisco.
California Hydro-Oil Burner, Inc., 1714 Sixteenth Street, Oakland.

ORNAMENTAL IRON AND BRONZE
Federal Ornamental Iron and Bronze Co., 16th St. and San Bruno Ave., San Francisco.
Michel & Pfeffer Iron Works, 1415 Harrison St., San Francisco.
Palm Iron and Bridge Works, Sacramento.

PAINTING, DECORATING, ETC.
The Tormey Co., 681 Geary St., San Francisco.
A. Quandt & Sons, 374 Guerrero Street, San Francisco.
D. Zelinsky & Sons, Inc., 165 Grove St., San Francisco.

PAINTS, OILS, ETC.
The Paraffine Companies, Inc., San Francisco, Los Angeles, Oakland, Portland and Seattle.
Bass-Hueter Paint Company, San Francisco, Los Angeles, Portland, Seattle.
R. N. Nason & Co., 151 Potrero Ave., San Francisco.

PANEL BOARDS
Drendell Electric & Mfg. Co., 1760 Howard St., San Francisco.
Frank Adam Electric Company, 340 Fremont St., San Francisco, and 1127 Wall Street, Los Angeles; general offices, St. Louis, Mo.
Westinghouse Elec. and Mfg. Co., Crocker First National Bank Bldg., San Francisco; general offices and works, East Pittsburgh, Pa.

PANIC EXIT DEVICES
Von Duprin, manufactured by Vonnegut Hardware Company, Indianapolis; sold by D. A. Pancoast Co., 605 Market Street, San Francisco.

PARTITIONS—MOVABLE OFFICE
Dahlstrom Metallic Door Company, Jamestown, N. Y., Coast plant, 3350 E. Slauson Ave., Los Angeles.
Pacific Mfg. Co., Monadnock Building, San Francisco; factory at Santa Clara.

PENCILS AND ERASERS
A. W. Faber Company, Newark, N. J., represented by Cahen, Davis & Company, 313 Severance Bldg., Los Angeles, Calif.

PIPE—WROUGHT IRON
Reading Iron Co., Reading, Pa., and Balboa Bldg., San Francisco.

PLASTER
"Empire," manufactured by Pacific Portland Cement Co., Hunter-Dulin Building, San Francisco, Portland, San Jose and Los Angeles.

PLASTER BASE
"Celotex," Western Asbestos Magnesia Co., 25 South Park, San Francisco.

PLASTERING CONTRACTORS
A. Knowles, Call Bldg., San Francisco.
MacGruer & Company, 266 Tehama Street, San Francisco, and Pacific Mutual Bldg., Los Angeles.

PLUMBING CONTRACTORS
Gilley-Schmid Company, 198 Otis St., San Francisco.
Hateley & Hateley, 1710 Tenth St., Sacramento.
Luppen & Hawley, 906 7th St., Sacramento.
Scott Co., Inc., 243 Minna St., San Francisco.
Wm. F. Wilson Co., 248 Fourth Street, San Francisco.
Geo. A. Schuster, 4712 Grove St., Oakland.
W. H. Picard, 5656 College Ave., Oakland.

PLUMBING SUPPLY HOUSES
Standard Pacific Fixtures, 349 Sutter St., San Francisco.
Tay-Holbrook, Inc., 165 8th Street, San Francisco.
Clarence Drucker, manufacturers' representative, 307 Minna St., San Francisco.
Walworth Company, Boston, Mass., San Francisco office, 235 Second Street.

PLYWOOD
Port Orford Cedar Products Co., Marshfield, Oregon, represented by Dent & Russell, Inc., Porter Bldg., Portland, Oregon.

PRESSED STEEL
Berger Manufacturing Co., 1120 Mission St., San Francisco.

PRESSURE REGULATORS
Vaughn-G. E. Witt Co., 4224-28 Hollis Street, Emeryville, Oakland.

PUMPING MACHINERY
Simonds Machinery Co., 816 Folsom Street, San Francisco; 5220 East 4th Street, Los Angeles.

PUMPS—HAND OR POWER
Ocean Shore Iron Works, 558 Eighth St., San Francisco.
S. F. Bowser & Co., Inc., 425 Brannan St., San Francisco.

REFRIGERATORS
"General Electric," sold by the George Belsey Company, Architects Building, Los Angeles; L. H. Bennett, Rialto Bldg., San Francisco.
McCray Refrigerator Sales Corp., Kendalville, Indiana;; San Francisco office, 765 Mission Street.

REINFORCING STEEL
Soule Steel Company, Inc., Rialto Bldg., San Francisco, and Los Angeles.
Gunn, Carle & Co., Inc., 444 Market St., San Francisco.
United Alloy Steel Corporation, Canton, Ohio; Western Sales Office, Santa Fe Bldg., San Francisco.
Truscon Steel Company, Sharon Bldg., San Francisco.

ROOF MATERIALS
El Rey Products Co., 1633 San Pablo St., Los Angeles; 960 7th St., San Francisco; 65 Columbia St., Seattle; 850 E. Taylor St., Portland.
Kraftile Company, office and factory at Niles; show room, 55 New Montgomery Street, San Francisco.
"Malthoid" and "Ruberoid," also "Pabco" 10 and 20 year roofs, manufactured by the Paraffine Companies, Inc., San Francisco, Los Angeles, Oakland, Portland and Seattle.
Gladding, McBean & Co., 660 Market St., San Francisco; 621 S. Hope St., Los Angeles; 1500 First Ave. South, Seattle; 454 Everett St., Portland; 15th and Dock Sts., Tacoma, and 22nd and Market Sts., Oakland.
N. Clark & Sons, 112-116 Natoma Street, San Francisco; works, West Alameda, California.
W. S. Dickey Clay Mfg. Co., Rialto Bldg., San Francisco.
Johns-Manville Corporation of California, 159 New Montgomery St., San Francisco.
United Materials Co., Sharon Building, San Francisco.
Western Asbestos Magnesia Company, 25 South Park, San Francisco.
"Torfoleum" Insulation distributed by Mailliard & Schmiedell. 203 California St., San Francisco.
Pioneer Paper Co., 5500 South Alameda, Los Angeles; Hearst Bldg., San Francisco; offices in Portland, Seattle, Salt Lake City, Spokane and Denver.

RUGS AND CARPETS—IMPORTED
Kent-Costikyan, Inc., 485 Fifth Ave., New York City, with offices at 442 Post St., San Francisco and 816 South Figueroa St., Los Angeles.

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W. & J. Sloane, 216 Sutter St., San Francisco.

SAFETY TREADS
Price-Teltz Company, 683 Howard St., San Francisco.
Gunn, Carle & Co., 444 Market St., San Francisco.

SASH CHAINS
American Chain Company, Inc., Bridgeport, Conn., and 425 Second St., San Francisco.
The Smith & Egge Mfg. Co., P. O. Box 1040, Bridgeport, Conn.; 506 American Bank Bldg., Los Angeles.

SCAFFOLDING FOR CONTRACTORS
Steelform Contracting Company, Monadnock Bldg., San Francisco; Edwards & Wildey Bldg., Los Angeles.

SEATING—SCHOOL, THEATER, CHURCH
Home Manufacturing Company, Inc., 552 Brannan St., San Francisco.
C. F. Weber & Co., San Francisco, Los Angeles, Phoenix, Ariz.; Reno, Nevada.

SELF-RELEASING FIRE EXIT DEVICES
Von Duprin, manufactured by Vonnegut Hardware Company, Indianapolis; sold by D. A. Pancoast Co., 604 Market St., San Francisco.

SHADES
William Volker & Co., 631 Howard Street, San Francisco; 2301 East 7th Street, Los Angeles.

SHEATHING
The Sisalkraft Company, 205 W. Wacker Drive, Chicago, Ill.; 55 New Montgomery St., San Francisco and Hammond Lumber Co., Los Angeles.

SHEATHING AND SOUND DEADENING
Western Asbestos Magnesia Co., 25 South Park, San Francisco.

SHEET METAL WORKS
Forderer Cornice Works, Potrero Ave., San Francisco.

SHOW CASES
Home Manufacturing Company, Inc., 552 Brannan St., San Francisco.
Mullen Manufacturing Company, 64 Rausch St., San Francisco.

SOUND ABSORBING TREATMENT
Johns-Manville Corporation, 159 New Montgomery St., San Francisco.

SIGNALING & PROTECTIVE SYSTEMS
Garnett, Young & Co., 390 Fourth St., San Francisco.

SLUDGE BED GLASS-OVERS
Lord & Burnham Co., Irvington, N. Y., and 208 So. La Salle St., Chicago, Ill.

STEEL FABRIC
Soule Steel Company, Rialto Bldg., San Francisco, and Los Angeles.
National Steel Fabric Co., Pittsburgh, Pa.; 351 Bryant Street, San Francisco; 1358 Wholesale Street, Los Angeles; Seattle and Portland.

STEEL FORMS
Steelform Contracting Company, Monadnock Bldg., San Francisco; Edwards & Wildey Bldg., Los Angeles.

STEEL TANKS
Ocean Shore Iron Works, 55 Eighth St., San Francisco.

STEEL LUMBER
Genfire Steel Co., Sheldon Bldg., San Francisco; Builders' Exchange, Oakland.

STEEL SASH
Bayley-Springfield solid steel sash, sold by Gunn, Carle & Co., 444 Market St., San Francisco.
"Fenestra" Solid Steel Sash, manufactured by Detroit Steel Products Co., factory sales office, 526 Hunter-Dulin Bldg., San Francisco.
Berger Manufacturing Co., 1120 Mission St., San Francisco.
Michel & Pfeffer Iron Works, 1415 Harrison St., San Francisco.
Truscon Steel Company, 74 New Montgomery St., San Francisco.
W. S. Lea, 653 South Clarence St., Los Angeles.

STEEL—STRUCTURAL
Bethlehem Steel Company, Pittsburg, Pa., Matson Building, San Francisco; Pacific Building, Los Angeles; L. C. Smith Building, Seattle; American Bank Building, Portland, Oregon.
Golden Gate Iron Works, 1541 Howard St., San Francisco.
Judson Pacific Company, C. F. Weber Bldg., Mission and Second Sts., San Francisco, shops, San Francisco and Oakland.
McClintic-Marshall Company, 2050 Bryant Street, San Francisco.
Herrick Iron Works, 18th and Campbell Sts., Oakland.
Pacific Coast Eng. Co., foot 14th St., Oakland.
Palm Iron & Bridge Works, Sacramento.
Schrader Iron Works, Inc., 1247 Harrison St., San Francisco.
Western Iron Works, 141 Beale Street, San Francisco.
Consolidated Steel Corporation, 1200 N. Main St., Los Angeles.

STORE FURNITURE
Berger Manufacturing Co., 1120 Mission St., San Francisco.

STREET LIGHTING EQUIPMENT
Westinghouse Electric and Mfg. Co., East Pittsburgh, Pa., and Crocker First National Bank Bldg., San Francisco.

STRUCTURAL STEEL SHAPES
Bethlehem Steel Company, Matson Building, San Francisco; Pacific Finance Building, Los Angeles; L. C. Smith Building, Seattle; American Bank Building, Portland, Oregon.

SUN TAN ROOMS
Lord & Burnham Co., Irvington, N. Y., and 208 So. La Salle St., Chicago, Ill.

SWIMMING POOL GLASS ENCLOSURES
Lord & Burnham Co., Irvington, N. Y., and 208 So. La Salle St., Chicago, Ill.

SWITCHES AND SWITCHBOARDS
Drendell Electrical & Mfg. Co., 1345 Howard St., San Francisco.
Westinghouse Elec. & Mfg. Co., Crocker First Nat. Bank Bldg., San Francisco; general offices and works East Pittsburgh, Pa.

TELEPHONE SERVICE ARRANGEMENTS
All Bell Telephone Companies. Apply nearest Business Office, or American Telephone and Telegraph Company, 195 Broadway, New York.

THERMOSTATS FOR HEAT REGULATION
Johnson Service Company, Milwaukee, Wis.; Rialto Building, San Francisco.

TERRA COTTA
N. Clark & Sons, 116 Natoma Street, San Francisco.
National Terra Cotta Society, 230 Park Avenue, New York, N. Y.
Gladding-McBean & Co., San Francisco, Los Angeles, Portland and Seattle.

TILE—ENAMEL STEEL
Porstelain Tile Co., 66 Twelfth Street near Market, San Francisco, and 1410 Madison Street, Oakland.

TILE—RUBBER, CLAY, CORK, ETC.
Rossman Corporation of California, 49 Geary Street, San Francisco and Architects' Bldg., Los Angeles.
N. Clark & Sons, 112-116 Natoma Street, San Francisco; works, West Alameda, Cal.
Congoleum-Nairn, Inc., D. N. & E. Walter & Co., San Francisco, and Broadway Department Store, Los Angeles.
Gladding, McBean & Co., 660 Market St., San Francisco; 621 S. Hope St., Los Angeles; 1500 First Ave. South, Seattle; 454 Everett St., Portland; 15th and Dock Sts., Tacoma, and 22nd and Market Sts., Oakland.
Kraftile Company, factory at Nilee; 55 New Montgomery Street, San Francisco.
Mangrum-Holbrook, Inc., 1235 Mission St., San Francisco.
United States Rubber Co., 300 Second St., San Francisco, and 923 Los Angeles St., Los Angeles, Calif.
Armstrong Cork Tile, sold by Van Fleet-Freear Co., 557 Howard Street, San Francisco; 3307 Wilshire Boulevard, Los Angeles.
The Mosaic Tile Co., Zanesville, Ohio; West Coast offices: E. K. Porter, 568 - 7th St., San Francisco; O. M. Bendure, 2470 Enterprise St., Los Angeles.

UNDERGROUND CONDUIT
Ric-wil distributed by H. G. Sperry Co., 74 New Montgomery St., San Francisco.

UNDERFLOOR DUCT SYSTEM
Johns-Manville Corporation, 159 New Montgomery St., San Francisco.

VACUUM HEATING SYSTEM
C. A. Dunham Company, Dunham Bldg., 450 Ohio St., Chicago, and principal Coast cities.

VALVES—PIPES AND FITTINGS
Clarence Drucker, Manufacturers' Agent, 307 Minna Street, San Francisco.
Grinnell Co., Fifth and Brannan Sts., San Francisco.
Sloan Valve Company, Chicago; E. C. Whalen, 954 Western Pacific Bldg., Los Angeles; W. J. Driscoll, 482 Monadnock Bldg., San Francisco; E. C. Fallein, U. S. National Bank Bldg., Denver; S. D. Cochran, L. C. Smith Bldg., Seattle, Wash.

VARNISHES
Bass-Hueter Paint Company, San Francisco, Los Angeles, Portland, Seattle.
The Paraffine Companies, Inc., San Francisco, Los Angeles, Portland and Seattle.
R. N. Nason & Co., 151 Potrero Ave., San Francisco.

VENETIAN BLINDS
C. F. Weber & Company, 601 Mission St., San Francisco.

VENTILATING EQUIPMENT
B. F. Sturtevant Co., Monadnock Bldg., San Francisco; Los Angeles, Portland and Seattle.

VENTILATORS
"The Panelouvre," sold by M. E. Hammond, Pacific Bldg., San Francisco.

VITREOUS CHINAWARE
Standard-Pacific Plumbing Fixtures, 349 Sutter St., San Francisco; 919 W. Seventh St., Los Angeles; 1301 Fifth Ave., Seattle Wash.; 48 Fifth St., Portland, Ore.

WATER HEATERS—GAS
Pittsburg Water Heater Company, (gas), 478 Sutter Street, San Francisco.
Rund Heater Co., (gas), 245 Mason Street, San Francisco.

WALL BEDS, SEATS, ETC. (See Beds),

WATER COOLERS
General Electric Refrigerator, L. H. Bennett, Rialto Building, San Francisco, and the George Belsey Company, Architects Building, Los Angeles.

WALL BEDS
Rip Van Winkle Wall Bed Co., 51 Second St., San Francisco, and 792 22nd St., Oakland.

WALL TILE
The Mosaic Tile Co., Zanesville, Ohio; West Coast Offices: E. K. Porter, 568-7th St., San Francisco; O. M. Bendure, 2470 Enterprise St., Los Angeles.

WATERPROOFING
Johns-Manville Corporation, 159 New Montgomery St., San Francisco.
The Paraffine Companies, Inc., San Francisco, Los Angeles, Oakland, Portland, Seattle.
Gunn, Carle & Co., 444 Market St., San Francisco.
The Sisalkraft Company, 205 W. Wacker Drive, Chicago, Ill.; 55 New Montgomery St., San Francisco and Hammond Lumber Co., Los Angeles.

WATER SUPPLY SYSTEMS
Kewanee Water Supply System — Simonds Machinery Co., agents, 816 Folsom St., San Francisco; 520 East Fourth Street, Los Angeles.

WINDOW SHADES
William Volker & Co., 631 Howard Street, San Francisco; 2301 East 7th Street, Los Angeles.
W. & J. Sloane, 216 Sutter St., San Francisco.
D. N. & E. Walter & Co., 562 Mission St., San Francisco.

WINDOWS STEEL, REVERSIBLE, ETC.
Campbell and Voigtmann Metal Windows, distributed by Fire Protection Products Company, 1101 Sixteenth St., San Francisco.
Crittall Casement Window Company, Detroit, Mich. Badt-Falk & Co., 74 Montgomery Street, San Francisco. F. T. Crowe & Co., 216 Walker Bldg., Seattle. R. H. Hoskins, 510 Hyde Bldg., Spokane. McCracken-Ripley Co., 61 Albina Avenue, Portland. F. T. Crowe & Co., 1177 Dock Street, Tacoma, Wash. Crittall Casement Window Co., 504 Union Insurance Bldg., Los Angeles.
Hauser Window Co., 1362 Harrison St., San Francisco.
Detroit Steel Products Co., Detroit, Mich.; Hunter-Dulin Building, San Francisco and Pershing Square Building, Los Angeles.
W. C. Lea, 653 South Clarence St., Los Angeles.

WIRING SYSTEM
Westinghouse Electric and Manufacturing Company, Crocker First National Bank Bldg., San Francisco; general offices and works, East Pittsburgh, Pa.

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HOLLYWOOD GETS BUSY

(From *The Lintel*)

The Los Angeles Architectural Club,
816 W. 5th Street, Los Angeles, Cal.

Dear Sirs:

"The Architects League of Hollywood" wishes to call your attention to a page in the Ladies Home Journal, concerning which it has this day passed a resolution providing for the writing of a letter to the editor of said Journal setting forth a protest, or rather a criticism. The page is (43) of the January, 1930, issue, and deals with a plan service carried on by said Journal.

Full plans and specifications of small homes are advertised for sale for the sum of one dollar, but no explanation is given as to what instruments are to be furnished. The "Architects League" feels that such advertising is in direct opposition to the present and future attempts of all architects to educate the public as to the value of the architect's services. Disregarding the fact that there can be little value to a dollar's worth of plans and specifications the publicity attending such widespread advertising will definitely cheapen the architect in the public mind and entirely negative such useful publicity as has been placed by our "State Association," by radio broadcast, and numerous other mediums.

This letter calling attention to what we consider to be an important matter of widespread consequence, is sent with the idea that the matter be brought up for discussion and possible action taken to express your views on the matter.

Very truly yours,
The Architects League of Hollywood
By V. B. McClurg, Sec'y.

Copies to:
State Association of California Architects.
Long Beach Architectural Club.
Pasadena Architectural Club.
Architects League of New Jersey.

Copy of Letter Sent to L. H. J.

Editor, Lorene A. Schuler,
The Ladies Home Journal,
Independence Square,
Philadelphia, Pa.

Dear Sir:

"The Architects League of Hollywood" acting as a body in regular meeting of January, 1930, discussed thoroughly page 43 of the January, 1930, edition of your periodical, devoted to small house plans for sale for one dollar.

This aforementioned page clearly set forth the fact that this particular small plan service, or bureau, was operated and sponsored by the "Ladies Home Journal," which definitely agrees to furnish complete plans and specifications of small houses, a few of which were pictured upon the page under discussion.

Several distinct phases of thought suggested themselves, both practical and ethical. On the former side the question arose as to what sort of working drawing could be furnished for one dollar for the actual construction of one of the houses pictured. Since it is the daily task of the architect to create plans, details, and specifications, from which structures are actually built and to pay out money for the preparation of such highly technical documents as designate the design, workmanship and materials which go into the buildings, it is difficult to imagine an adequate substitute for one dollar.

But far more important is the ethical side, the working in a publicity line directly opposite to that which the professionally trained architect is striving to put before the public, namely to educate as to the value of the architect's services.

While it is perfectly true that the practicing architect derives little of his business from the builder of small homes, nevertheless the broadcasting of cheap plans, which in reality are expensive for the results they obtain, is a menace to the profession of the architect, a profession old in years, and dignified in practice. Like the brother professions of medicine and law, efficiency is gained only through years of education and practice, yet many people who would hesitate considerably before employing a so-called quack doctor or lawyer, yet give little thought to spending their money for the services of a cut-rate practitioner in architecture. It is this problem that the architectural profession is up against and is seeking to remedy by its education of the public, through group advertising, to the actual value of the architect's services.

There are absolutely no personal reflections intended in the foregoing remarks, as the writer or no other member of the organization has seen the products advertised for sale. We simply deplore the creation of publicity which even inadvertently cheapens the services of the architect in the minds of the public and which is working absolutely at variance to our own earnest efforts at education. All expressed surprise that a periodical of such long standing prestige as your own should chance the antagonism of such a considerable body of persons as constitute the architectural profession with so little to be gained in return.

The "League" would be pleased to hear your side of the question if you will be so kind as to give it. We realize that there are different angles to all endeavors and shall remain open-minded for enlightenment upon this one, but we do wish to voice our opinion that the public would be better serviced by the trained architect even in the small house field as the winners of recent small house competitions were all established architects. We do consider the page in question a trifle misleading to the public in that it gives very little idea of what is to be expected in the way of plans and specifications from which to erect a building. We are also in considerable doubt as to the acceptance by our own and many other building departments of a dollar's worth of plans and specifications for perusal and check for the issuance of a building permit. We do not believe that there has been any deliberate intent to mislead the public, but we question the practical value of such a plan service and definitely regard with disfavor the cheapening of our profession in the mind of the public.

Trusting that at some future time you may see fit to publish an article setting forth our side of the question and assuring you of our heartiest co-operation along the line of architectural endeavor.

Enclosed find our check for $1.00, for which please send us a copy of plan No. 302, as advertised.

Very truly yours,
The Architects League of Hollywood
By V. B. McCLURG, Sec'y.

BOOK ILLUSTRATES SMALL HOMES

American prosperity since the war has been responsible for the most phenomenal growth in home building that the construction industry has ever seen. The work of erecting small homes has increased by leaps and bounds. Much of this development has been well done, and a new level of beauty, comfort and economy in domestic architecture has been attained. But some of it, also, has been poor in taste, and bad in construction, due to lack of sound professional guidance.

How to improve the quality of house architecture has been for some time the special concern of the Architects' Small House Service Bureau—a co-operative organization affiliated with the American Institute of Architects. It was formed in order to give professional aid to those who felt they could not afford a private architect, as well as to help architects doing home planning work, and builders wanting good house plans.

One valuable result of the work of the Bureau is now available in a beautiful and fully illustrated volume titled, "Small Homes of Architectural Distinction," which contains plans for 250 homes of from three to six rooms, designed for construction at prices ranging from $3000 to $10,000.

SAN MATEO ARCHITECTS BUSY

Messrs. Grimes and Schoening, 235-3rd Street, San Mateo, have completed plans for an eight-room house at Hillsborough Park for A. M. Schulte, 459 Carnell Avenue, San Mateo. The house will cost $15,000. The same architects have completed plans for a $9000 house for R. V. McIntosh of Palo Alto and an $8500 house for Mrs. A. Giraudo. A contract for the latter has been let to G. Soward, Peninsula Manor, San Mateo County.

IN H. C. BAUMANN'S OFFICE

New work in the office of H. C. Baumann, architect of San Francisco, includes a six story steel frame and concrete apartment house on Clay Street, San Francisco, for A. J. Falvey and estimated to cost $175,000, and a five story reinforced concrete apartment building on Sacramento Street, near Gough, San Francisco, for Lewis Stoff. The improvements will cost $100,000.

DESIGNING SCHOOL BUILDINGS

Two new school buildings are being designed by Norman R. Coulter, architect of San Francisco. One is at Mendicino City and the other at Fortuna, Humboldt County.

OAK FLOORING

like this has beautiful texture

The texture and pattern of "Perfection" Brand Oak flooring make possible a finish that is seldom found on any other flooring. You can depend upon "Perfection." In modern plants operated by skilled lumbermen, only the finest oak is selected. After prompt seasoning and kiln-drying, it is perfectly milled and matched so that it lays smooth and stays smooth. It is graded and handled so carefully that upon arrival anywhere, it is always in perfect condition. Leading lumber dealers gladly feature this nationally advertised brand.

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There's a size and grade for every type of structure, new or old. Ask your architect or building contractor for an estimate.

CONVENTIONS AND EXHIBITIONS

March 20-24—Pacific Coast Hardwood Dealers Association, Del Monte, California.

March 31-April 5th—Twelfth Annual Home Show, Grand Central Palace, New York City.

March-April—International Exhibition of Housing and Modern Industrial Applied Arts. Nice, France.

April 2-June 1—Students' Architectural Exhibition, State Building, Exposition Park, Los Angeles.

April 15-May 10—Third Annual Decorative Art Exhibition, Women's City Club, 465 Post street, San Francisco.

May 20-October 1—Exhibition of Modern Industrial and Decorative Arts, Stockholm, Sweden.

May 21-23—American Institute of Architects, sixty-third convention, Mayflower Hotel, Washington, D. C.

May 26-30—International Congress of Building and Public Works, London.

June 19-30—Pan-American Congress of Architects, Rio de Janeiro, Brazil.

September—International Architects' Congress, Budapest, Hungary.

October—Third annual meeting California State Society of Architects, Del Monte and Monterey, California.

FORM INTERNATIONAL FEDERATIONS

Emil Brisacher, president of Emil Brisacher & Staff, national advertising agency of San Francisco, Los Angeles and Portland, recently announced the formation of international federations. He states that the rapid growth of Pacific Coast institutions, both in the national and international field, has made this federation essential for the proper servicing of their clients.

Emil Brisacher & Staff is now federated with the Wm. H. Rankin Co., advertising agency of New York City and Chicago, and with G. Street & Co., Ltd., of London and Paris. An international service is rendered to all clients supervised by vice presidents of Emil Brisacher & Staff, located in Chicago, New York, London and Paris, who can profit by the pooling of the personnel of all three agencies.

The Wm. H. Rankin Co. has been established for thirty-one years, and is one of the leading eastern agencies, handling such accounts as Univent Radiators, Weatherwood Wall Board, Bright Star Batteries, Maple Flooring Association and Kitchen Maid Kitchen Cabinets.

Clients of Emil Brisacher & Staff now have their advertising supervised locally at the important international and national cities and can profit by the intimate knowledge of local conditions which will add materially to the efficiency of their advertising.

NEW ELEVATOR INSTALLATION

Extreme simplicity, combined with all the newest features of the elevator art, are incorporated in the three high speed elevators with General Electric control installed in the San Francisco Stock Exchange Building. Although pioneers on the Pacific Coast these elevators are of a type to be found in many of the largest buildings of our Eastern cities. Among features which contribute to safety and comfort of the passengers and to the speedy handling of the traffic of the building are: Regulated acceleration and speed, pre-register call system and pliotron tube leveling.

AUTOMATIC, PLIOTRON-TUBE, ELEVATOR-CAR-LEVELING UNIT

The most fascinating element of the control is the pliotron tube leveling device,. illustrated above. This device "savoring of the romantic age of radio," for a number of years has been used on what is called automatic train control. By this system, and as now applied to the elevator car, the pliotron tube, termed the eyes of the locomotive, causes the proper devices to function and slow down and stop the train. So in the elevator these rugged little tubes mounted in a device whose projecting arms sweep by signal vanes in the elevator shaft cause the car to slow down, level and stop with more than human accuracy. It becomes even more interesting when it is realized that no mechanical contact of any kind is made with the signal vanes; the pliotron device may be said to only glance at the signal. The vanes passing through the arms of the pliotron unit alter the resonant conditions of the tube thus changing the tube circuit to properly operate the necessary control relays.

Pre-register features and automatic dispatch insure speedy response to calls by the operator and a uniform dispatching of cars. Any and all of the automatic features can be used or not by the operator to meet special emergency conditions.

STOCK EXCHANGE CLUB

Miller and Pflueger, architects of San Francisco, have completed plans for elaborate quarters for the Stock Exchange Lunch Club on the top floor of the new Stock Exchange Building, San Francisco. More than $200,000 will be expended in fittings and furnishings.

OBJETS d'ART

A STAFF OF DECORATORS TO ASSIST THE ARCHITECT IN OBTAINING THAT PERFECTION IN DETAIL NECESSARY FOR THE CORRECT COMPLETION OF HIS ARCHITECTURAL SCHEME

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BUILDING CONDITIONS IN CHICAGO

(*Bulletin,* Illinois Society of Architects)

October last the bubble burst with the result that money is now turning to sounder channels and as real estate and building offer a higher degree of stability it is but natural that the financial world should again look upon real estate mortgages with high favor.

With the new year only a few weeks old figures for 1929 have been collected and they show average per capita building construction expenditures of $52.08, as compared to $60.60 in 1928, $59.86 in 1927, $64.28 in 1926 and $65.77 (the peak) in 1925. In fact, 1929 averaged only a little higher than 1923 and below 1924.

This general four-year decline has not been confined to any locality, but has been country wide in its effects and business generally has suffered, for the construction industry is the backbone of business and when it is prosperous it is noticeable that other lines likewise enjoy prosperity.

During October and well into November the public saw the futility of expecting speculation and high money rates to be maintained to the detriment of business in general. Millions of dollars that changed hands in the fluctuations of the stock market might just as well have been invested in sound securities with the backing of real estate and buildings to insure a legitimate income, and it will be interesting to keep account of developments when the public, now looking more or less askance at any form of investment, turns to mortgage bonds, to home building and to other sound investments with little or no speculative attraction.

Money long withheld in the high speculative market will begin to find outlets and will return to fields of sound investments. The immediate reaction should favor the home builder and land developer, for the latter must of necessity have larger blocks of loans under systematized methods of financing that the smaller borrower will not meet up with. Mortgage money that has been tight for more than a year will begin to reappear as it is released from speculation and the entire country will benefit, the construction industry being about the first group to feel the change.

While there may be no immediate improvement in the building activity of the country, at least none that will be outstanding, it is generally agreed that money will be more plentiful for legitimate loans, that large banks, trust companies and insurance companies will begin to turn to the mortgage field for an outlet for surpluses in their treasuries. Within four or five months this abundant money condition will become manifest to a marked degree. Some over-optimistic observers predict a quickening in the building field almost immediately, but this hardly seems possible in view of the present conservatism that may continue for some time.

AN INTERVIEW ON AMERICAN ARCHITECTURE

A young London architect named Alister G. MacDonald landed in Gotham the other day. In the canyons of lower Broadway, he looked up eagerly at the tall buildings. He was not expecting the shower of ticker tape that had greeted his father and sister a few months before; he was studying American skyscrapers.

In fact, instead of staying at a swank New York hotel, he moved over to the Henry Street Settlement House on the tawdry East Side. There he was the guest of Miss Lillian Wald, prominent social worker, who extensively entertained his father and sister during their recent American visit.

In London he is what he styles a "practicing architect," has built several factories, a welfare center in Edinburgh, and has commissions to build some motion picture studios.

Hollywood studios will be objects of special attention from him, for he expects to learn much from American designs.

"America is the place to study new trends in architecture," he said, "because they are developing so rapidly here. Conservative England has so many traditions that it takes a long time to adopt new styles.

"I think England never will become a nation of skyscrapers. The people would resent them. Even the American people should call a halt on the height of their buildings, or they will face an unpleasant socialogical problem.

"After all, we are human beings, not ants. There is a limit to the jamming and packing we can and will stand. It gives me a distinctly unpleasant sensation to step out into the street and be in a cavern of stone and brick. I don't believe it is a natural development." — M. S. A. Bulletin.

NEW FAIRFIELD SCHOOL

Until 2 P. M., March 18th, bids will be received by Armijo Union High School District at Fairfield, for construction of a two-story reinforced concrete high school building at Fairfield, Solano County, from plans by Coffman, Sahlberg & Stafford, Forum Building, Sacramento. The estimated cost is $160,000. Bids are being taken for concrete, carpentry and masonry; plumbing; heating; electric work; sheet metal work, roofing; glass and plastering.

ARCHITECTS MOVE

Messrs. Clarence R. Ward and Harry Blohme, architects, announce the removal of their offices from 310 Sansome Street to 24 California Street, San Francisco.

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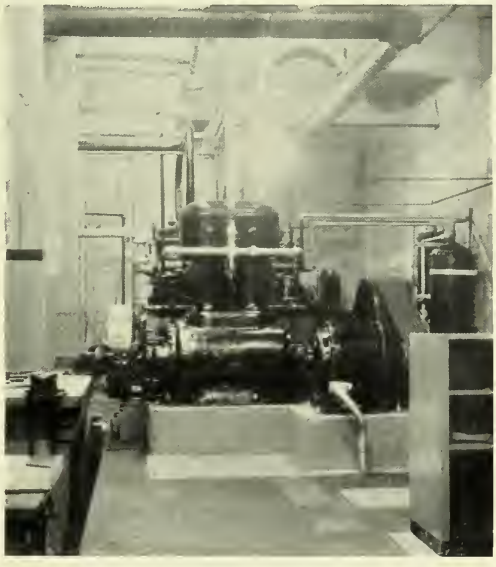

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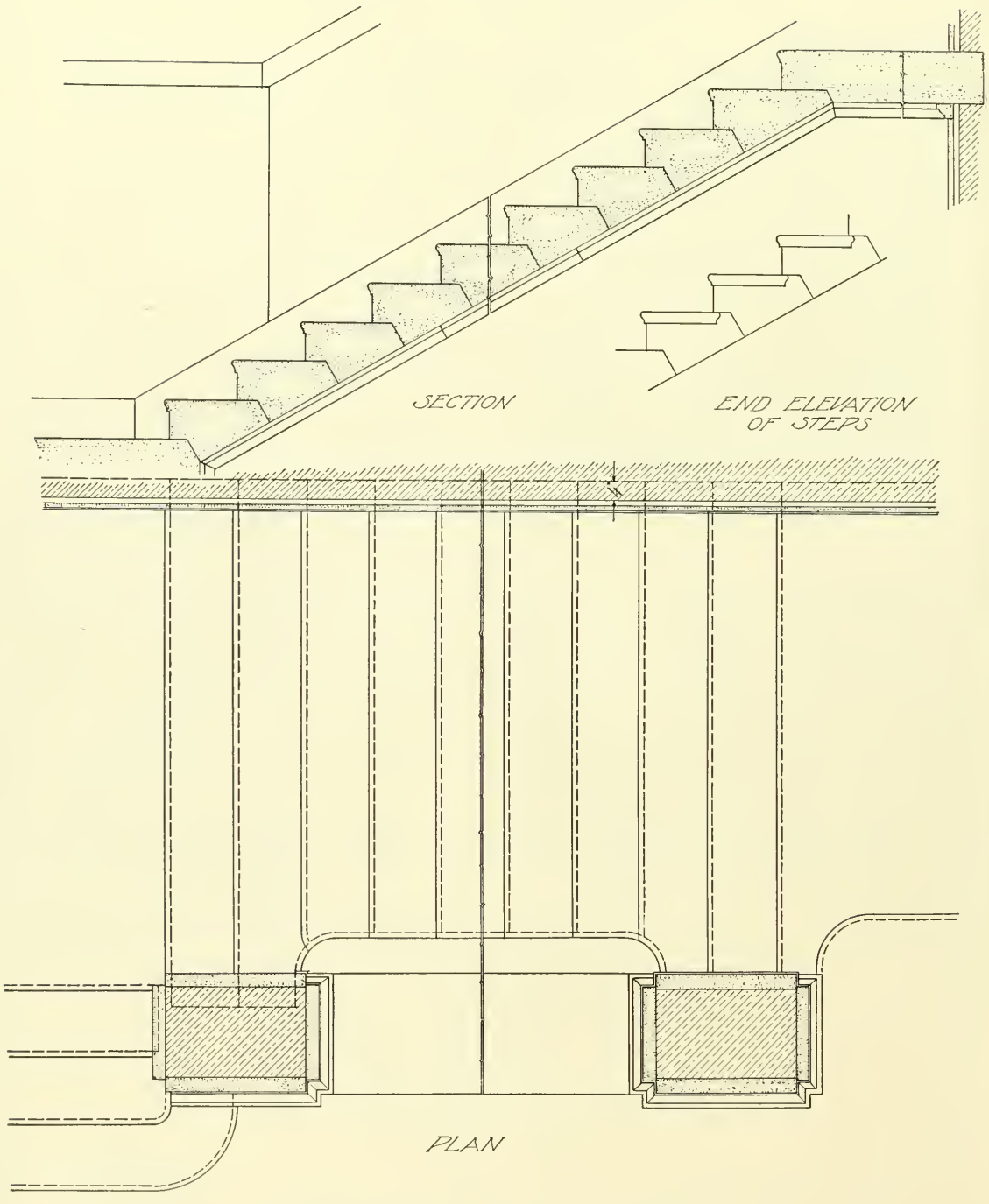

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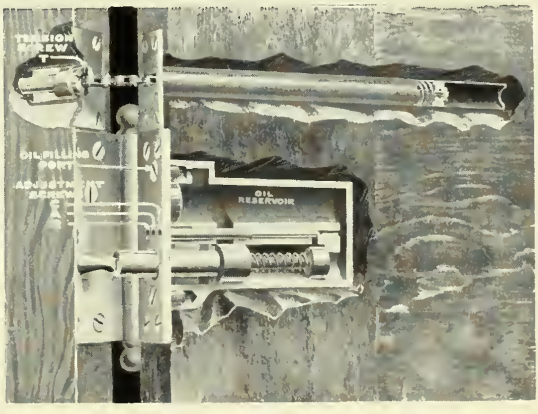

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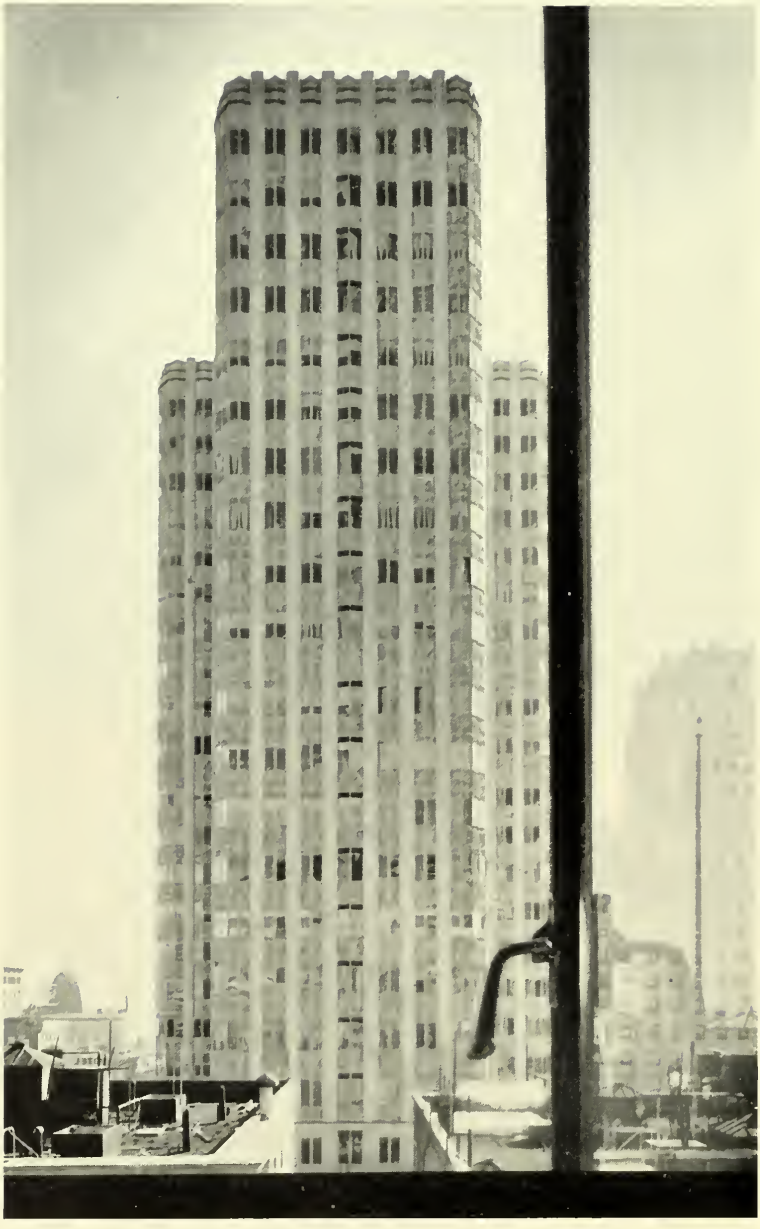

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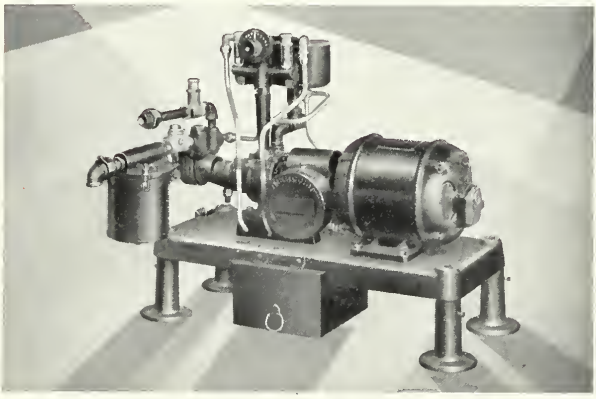

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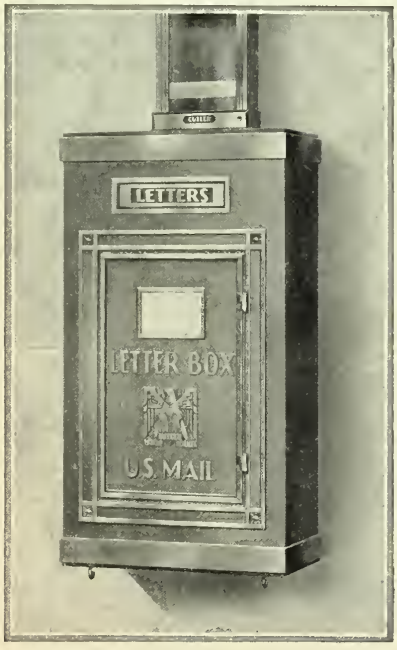

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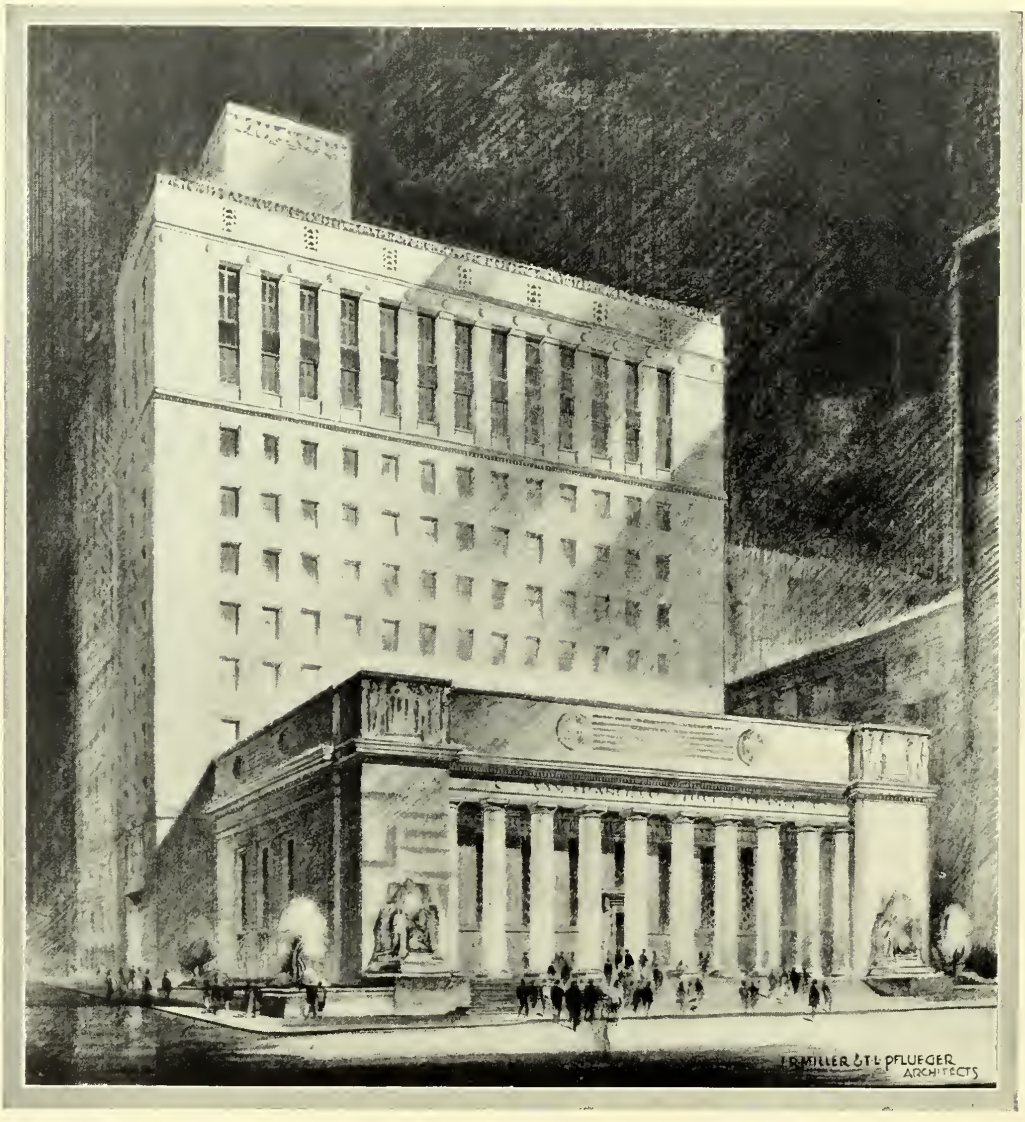

There is an interesting history to the new San Francisco Stock Exchange Building : : : An architectural competition had resulted in plans for an unusual building of modern type, when it was decided to buy the old United States Sub-Treasury, a massive one-story granite structure, remodel it, and add an office wing : : : The architects, J. R. Miller and T. L. Pflueger, have succeeded in producing a coherent and imposing design, well-suited to its semi-public function : : : Construction and finish are of the highest character throughout : : : Lindgren & Swinerton, Inc., Builders : : : All lacquering, decorating, painting, by A. Quandt & Sons, Painters and Decorators (Since 1885) 374 Guerrero Street, San Francisco : : :

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Estimator's Guide

Giving Cost of Building Materials, Wage Scale, Etc.

Amounts quoted are figuring prices and are made up from average quotations furnished by material houses to three leading contracting firms of San Francisco.

All prices and wages quoted are for San Francisco and the Bay District. There may be slight fluctuation of prices in the interior and southern part of the state. Freight cartage, at least, must be added in figuring country work.

Overtime in wage scale should be credited with time and a half, Sunday and holidays double.

Bond—1½% amount of contract.

Brickwork—
Common, $32 to $38 per 1000 laid, (according to class of work).
Face, $90 to $115 per 1000 laid, (according to class of work).
Brick Steps, using pressed brick, $1.10 lin. ft.
Brick Walls, using pressed brick on edge, 75c sq. ft. (Foundations extra.)
Brick Veneer on frame buildings, $ .90 sq. ft.
Common, f.o.b. cars, $14.50 plus cartage.
Face, f.o.b. cars, $55.00 per 1000, carload lots.

HOLLOW TILE FIREPROOFING (f.o.b. cars in carload lots).

3x12x12 in.	$ 96.00 per M
4x12x12 in.	108.00 per M
6x12x12 in.	156.00 per M
8x12x12 in.	255.00 per M

HOLLOW BUILDING TILE (f.o.b. cars in carload lots).

8x12x5½	$108.00
6x12x5½	74.00

Composition Floors — 18c to 30c per sq. ft. In large quantities, 18c per sq. ft. laid.
Rubber Tile—65c per sq. ft.

Terazzo Floors—50c to 60c per sq. ft.
Terazzo Steps—$1.50 per lin. ft.
Mosaic Floors—80c per sq. ft.

Concrete Work (material at San Francisco bunkers) — Quotations below 2000 lbs. to the ton.

No. 3 rock, at bunkers	$1.40 per ton
No. 4 rock, at bunkers	1.40 per ton
Eliott pea gravel, at bnkrs.	1.40 per ton
Washed gravel, at bnkrs.	1.40 per ton
Eliott top gravel, at bnkrs.	1.40 per ton
City gravel, at bunkers	1.40 per ton
River sand, at bunkers	1.00 per ton
Delivered bank sand	1.00 cu. yd.

Note—Above prices are subject to discount of 10c per ton on invoices paid on or before the 15th of month, following delivery.

SAND
Del Monte, $1.75 to $3.00 per ton.
Fan Shell Beach (car lots, f.o.b. Lake Majella), $2.75 to $4.00 per ton.
Cement, $2.44 per bbl. in paper sks.
Cement (f.o.b. Job, S. F.) $2.64 per bbl.
Cement (f.o.b. Job, Oak.), $2.64 per bbl.
Rebate of 10 cents bbl. cash in 15 days.
Atlas "White" .....$ 8.50 per bbl.
Forms, Labors average 22.00 per M.
Average cost of concrete in place, exclusive of forms, 28c per cu. ft.
4-inch concrete basement floor.....13c to 14c per sq. ft.
4½-inch concrete basement floor.....14c to 15c per sq. ft.
2-inch rat-proofing....6½c per sq. ft.
Concrete Steps.....$1.26 per lin. ft.

Dampproofing—
Two-coat work, 20c per yard.
Membrane waterproofing—4 layers of saturated felt, $5.50 per square.
Hot coating work, $2.00 per square.

Electric Wiring — $3.00 to $9.00 per outlet for conduit work (including switches).
Knob and tube average $2.25 to $5.00 per outlet, including switches.

Elevators—
Prices vary according to capacity, speed and type. Consult elevator companies. Average cost of installing an automatic elevator in four-story building, $2600; direct automatic, about $2500.

Excavation—
Sand, 70 cents; clay or shale, $1.25 per yard.
Teams, $10.00 per day.
Trucks, $21 to $27.50 per day.
Above figures are an average without water. Steam shovel work in large quantities, less; hard material, such as rock, will run considerably more.

Fire Escapes—
Ten-foot balcony, with stairs, $65.00 per balcony.

Glass (consult with manufacturers)—
Double strength window glass, 15c per square foot.
Quartz Lite, 50c per square foot.
Plate 80c per square foot.
Art, $1.00 up per square foot.
Wire (for skylights), 27c per square foot.
Obscure glass, 25c per square foot.
Note—Add extra for setting.

Heating—
Average, $1.80 per sq. ft. of radiation, according to conditions.

Iron—Cost of ornamental iron, cast iron, etc., depends on designs.

Lumber (prices delivered to bldg.site)
Common, $23.00 per M (average).
Common O. P. select, average, $33.00 per M.

1 x 6 No. 3—Form lumber	$20.00 per M
1 x 4 No. 1 flooring	42.00 per M
1 x 4 No. 2 flooring	40.50 per M
1 x 4 No. 3 flooring	35.00 per M
1 x 6 No. 2 and better flooring	41.00 per M
1¼ x 4 and 6 No. 2 flooring	50.00 per M

Slash grain—

1 x 4 No. 2 flooring	$35.00 per M
1 x 4 No. 3 flooring	33.00 per M
No. 1 common run to T. & G.	30.00 per M
Lath	4.50 per M

Shingles (add cartage to prices quoted)—

Redwood, No. 1	$ .90 per bdle.
Redwood, No. 2	.75 per bdle.
Red Cedar	.90 per bdle.

Hardwood Flooring (delivered to building)—

13-16x3¼" T & G Maple	$135.00 M ft.
1 1-16x2¼" T & G Maple	145.50 M ft.
⅞x3½ sq. edge Maple	132.50 M ft.

	13-16x2¼" T&G	⅜x2" T&G	5-16x2" Sq. Ed.
Clr. Qtd. Oak	$220.00 M	$160.00 M	$178 M
Sel. Qtd. Oak	150.00 M	122.00 M	131 M
Clr. Pla. Oak	155.00 M	110.00 M	113 M
Sel. Pla. Oak	132.00 M	79.00 M	97 M
Clear Maple	147.00 M	101.00 M	
Laying & Finishing	16c ft.	15c ft.	13c ft.

Wage—Floor layers, $9.00 per day.

Building Paper—

1 ply per 1000 ft. roll	$4.00
2 ply per 1000 ft. roll	6.00
3 ply per 1000 ft. roll	9.25
Sash cord com. No. 7	$ 1.05 per 100 ft.
Sash cord com. No. 8	1.20 per 100 ft.
Sash cord spot No. 7	1.75 per 100 ft.
Sash cord spot No. 8	1.10 per 100 ft.
Sash weights cast iron	57.00 ton

Nails, $3.25 base.
Belgian nails, $3.00 base.

Millwork—
O. P. $85.00 per 1000. R. W., $87.50 per 1000 (delivered).
Double hung box window frames, average, with trim, $6.50 and up, each.
Doors, including trim (single panel, 1¾ in. Ore. pine) $7.00 and up. each.
Doors, including trim (five panel, 1¾ in. Oregon pine) $6.00 each.
Screen doors, $3.50 each.
Patent screen windows, 25c a sq. ft.
Cases for kitchen pantries seven ft. high, per lineal ft., $6.00 each.
Dining room cases, $7.00 per lineal foot.
Labor—Rough carpentry, warehouse heavy framing (average), $11.00 per M.
For smaller work, average, $22 to $30 per 1000.

Marble—(Not set), add 50c to 65c per ft. for setting.

Alaska	$1.40 sq. ft.
Columbia	1.40 sq. ft.
Golden Vein Yule Colo.	1.70 sq. ft.
Pink Lepanto	1.50 sq. ft.
Italian	1.75 sq. ft.

Tennessee ..... 1.70 sq. ft.
Verde Antique ..... 3.00 sq. ft.

NOTE—Above quotations are for ⅞ inch wainscot in large slabs f.o.b. factory. Prices on all other classes of work should be obtained from the manufacturers.

Floor Tile—Set in place.

Verde Antique .....$2.50 sq. ft.
Tennessee ..... 1.50 sq. ft.
Alaska ..... 1.35 sq. ft.
Columbia ..... 1.45 sq. ft.
Yule Colorado ..... 1.45 sq. ft.
Travertine ..... 1.60 sq. ft.

Painting—

Two-coat work .....30c per yard
Three-coat work .....40c per yard
Whitewashing ..... 4c per yard
Cold Water Painting ..... 8c per yard
Turpentine, 90c per gal. in cans and 75c per gal. in drums.
Raw Linseed Oil—$1.36 gal. in bbls.
Boiled Linseed Oil—$1.39 gal. in bbls.

Carter or Dutch Boy White Lead in Oil (in steel kegs)

Per. Lb.
1 tou lots, 100 lbs. net weight 12¾c
500 lb. and less than 1 ton lots 12½c.
Less than 500 lb. lots 12c

Dutch Boy Dry Red Lead and Litharge (in steel kegs)

1 ton lots, 100 lb. kegs, net wt. 12¾c
500 lb. and less than 1 ton lots 12½c
Less than 500 lb. lots.....13c

Red Lead in Oil (in steel kegs)

1 ton lots, 100 lbs. net weight 13¾c
500 lb. and less than 1 ton lots....14c
Less than 500 lb. lots.....14¼c

Note—Accessibility and conditions cause wide variance of costs.

Patent Chimneys—

6-inch.....$1.00 lineal foot
8-inch..... 1.50 lineal foot
10-inch..... 1.85 lineal foot
12-inch..... 2.10 lineal foot

Pipe Casings — 14″ long (average), $5.00 each.

Plastering—Interior—

	Yard
1 coat, brown mortar only, wood lath	$0.40
2 coats, lime mortar hard finish, wood lath	.52
2 coats, hard wall plaster, wood lath	.55
3 coats, metal lath and plaster	1.00
Keene cement on metal lath	1.25
Ceilings with ¾ hot roll channels metal lath	.67
Ceilings with ¾ hot roll channels metal lath plastered	1.40
Shingle partition ¾ channel lath 1 side	.62
Single partition ¾ channel lath 2 sides 2 inches thick	2.20
4-inch double partition ¾ channel lath 2 sides	1.30
4-inch double partition ¾ channel lath 2 sides plastered	2.45

Plastering—Exterior—

	Yard
2 coats cement finish, brick or concrete wall	$1.00
2 coats Atlas cement, brick or concrete wall	1.25
3 coats cement finish No. 18 gauge wire mesh	1.75
3 coats Atlas finish No. 18 gauge wire mesh	2.05

Wood lath, $4.50 per 1000.
2.5-lb. metal lath (dipped) ..... .19
2.5-lb. metal lath (galvanized) ..... .22
3.4-lb. metal lath (dipped) ..... .24
3.4-lb. metal lath (galvanized) ..... .29
¾-inch hot roll channels, $45 per ton.
Hardwall plaster, $15.40 ton; $12.95 in paper sacks (rebate 15c sack).
Finish plaster, $16.40 ton; in paper sacks, $13.85 (rebate 10c sack).
Dealer's commission, $1.00 off above quotations.
Hydrate Lime, $19.50 ton.
Lime, f.o.b. warehouse, $2.25 bbl.; cars, $2.15
Lime, bulk (ton 2000 lbs.), $16.00 ton.
Wall Board 5 ply, $43.00 per M.

Composition Stucco—$1.60 to 2.00 per sq. yard (applied).

Plumbing—

From $60.00 per fixture up, according to grade, quantity and runs.

Roofing—

"Standard" tar and gravel, $5.25 per square for 30 squares or over.
Less than 30 squares, $5.50 per sq.
Tile, $19.00 to $35.00 per square.
Redwood Shingles, $11.00 per square in place.
Cedar Shingles, $10.50 sq. in place.
Recoat, with Gravel, $3.00 per sq.

Sheet Metal—

Windows—Metal, $1.80 a sq. foot.
Fire doors (average), including hardware, $2.00 per sq. ft. (not

Skylights—

Copper, $1.35 sq. ft. (not glazed).
Galvanized iron, 28c sq. ft. (not glazed).

Stone—

Granite, average, $5.50 sq. foot in place.
Sandstone, average Blue, $3.50; Boise, $2.60 sq. ft. in place.
Indiana Limestone, $2.60 per sq. ft. in place.

Store Fronts—

Copper sash bars for store fronts, corner, center and around sides, will average 75c per lineal foot.
Note—Consult with agents.

Steel Structural—$85.00 per ton erected). This quotation is an average for comparatively small quantities
Light truss work higher; plain beam and column work in large quantities, less.
Cost of steel for average building (erected), $82.00 per ton.

Reinforcing—

Base price for car load lots, $2.45 100 lbs., f.o.b. cars.
Average cost to install, $23 per ton.

Steel Sash—

All makes, from S. F. stock, 18c to 30c per square foot.
All makes, plant shipment, 18c to 30c per square foot.
(Includes mullions and hardware.)

Tile—White glazed, 75c per foot, laid.
White floor, 75c per foot, laid.
Colored floor tile, $1.00 per ft. laid.
Promenade tile, 80c per sq. ft., laid.

For 1930
Wage Schedule
of
San Francisco
and
Bay Cities
Building Trades
with
Comments
by
Industrial
Association
and
Resolutions
by
Builders
Exchange
San Francisco

See Pages 153 · 155 · 157

CORROSIRON . . . Acid Proof Drain Lines give long and carefree service in many of the most prominent high schools of our country.

Mission High School, San Francisco

PACIFIC FOUNDRY COMPANY, LTD.

551 Fifth Avenue
NEW YORK, N. Y.

Plant and Offices
Harrison and 18th Streets, SAN FRANCISCO, CAL.

Four-Fifty Sutter Street

San Francisco

The Pacific Coast's most modern Medico - Dental office building, Miller & Pflueger, *Architects*, will be pictured in detail in the April

« « ARCHITECT & ENGINEER » »

B · J · S · Cahill will write his Impressions

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THE WORLD'S STANDARD DRAWING PENCIL

16 DEGREES OF HARDNESS

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NEWARK, NEW JERSEY
Pencil Manufacturers For Over 168 Years

A Modern Institution Catering to the Hotel and Household Trade

Hotel kitchen equipment, dining room silverware, crockery, glassware, also departments for household supplies and ranges

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MANGRUM-HOLBROOK COMPANY
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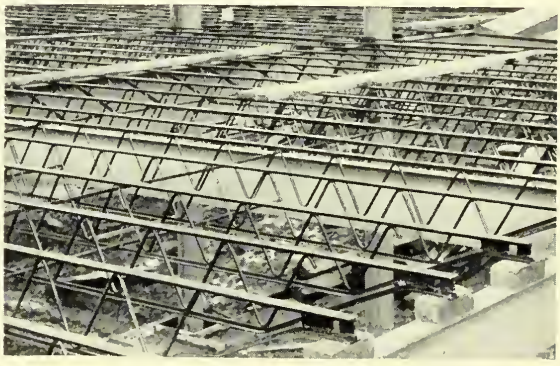
Phone MArket 2400

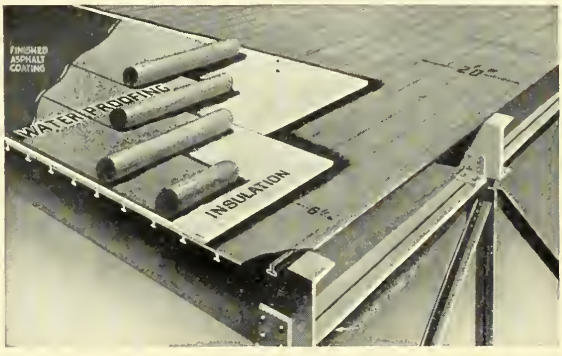
FIREPROOF CONSTRUCTION *for* MODERN BUILDINGS



STEEL JOISTS FOR FLOORS

Truscon Steel Joists are designed in accordance with the specifications of The Steel Joist Institute.

Fireproof — soundproof floor construction is provided economically by Truscon Steel Joists. They are completely shop fabricated and quickly erected without centering or special equipment. Three types are furnished. "O-T" — (Open Truss), "P-G" — (Plate Girder) and Nailer Joists. *Write for literature.*



STEELDECKS FOR ROOFS

Fireproof roofs, light in weight and economical in cost, are provided by Truscon Steeldecks. They are quickly erected, insulated to any degree and waterproofed with standard roofing. Steeldecks are equally satisfactory for new buildings or replacing old roofs.

Write for catalog and quotations.

A PRODUCT OF TRUSCON

TRUSCON STEEL COMPANY
YOUNGSTOWN, OHIO
Los Angeles: 5480 E. Slauson Ave.
San Francisco: 74 New Montgomery St.
Portland: 449-57 Kerby St.
Seattle: Seaboard Bldg.
Salt Lake City: 1526 West Temple St. S.

SPENCER ELEVATORS IN TAYLOR HOTEL

The Spencer Elevator Company of San Francisco made the entire elevator installation in the new twenty-six story William Taylor hotel at Leavenworth and McAllister Streets, San Francisco.

The elevator problem in a building of such magnitude naturally is given very serious consideration, and the awarding of the contract to Spencer Elevator Company is an indication of the rapid growth of the Spencer-Westinghouse product. Speaking of the installation, Franklin M. Spencer, president of the company, said:

"Spencer elevators were chosen because of their past reputation for dependability, simplicity of construction, quietness of operation and starting and stopping smoothness, all very essential necessities in hotel construction.

"While all of the mechanical equipment was designed and manufactured by the Spencer Elevator Company, the electrical equipment, consisting of the very latest type of elevator motors and controllers, was built and furnished by the nationally and internationally known Westinghouse Electric & Manufacturing Company, comprising a most modern unit which meets all of the very latest safety requirements of the State Industrial Accident Commission.

"This installation includes a total of seven elevators, consisting of three 2,500 pound capacity high speed variable voltage passenger elevators; two 2,000 pound capacity high speed variable voltage freight elevators; one 2,500 pound capacity electric service elevator and one 2,000 pound capacity hydro-electric freight elevator."

Other recent Spencer installations include the Sir Francis Drake hotel, O'Connor-Moffatt & Company's new department store, Pacific Gas & Electric Company building, and the Gaylord Hotel, San Francisco.

TRADE CATALOGS AND NEWS NOTES

HYDRO OIL BURNER—The California Hydro-Oil Burner, Inc., has moved into its new plant at 1714 Sixteenth Street, Oakland. This company is manufacturing a burner intended to answer every need for cooking ranges, warm air heat, etc. Its manufacturers say the burner has a special appeal to those who dislike smoke and odor as both of these offensive faults have been eliminated. The burner is also economically operated.

THE INVISIBLE HOME—An interesting 24 page brochure describing Johns-Manville home insulation. The book tells why insulation is necessary for a really comfortable and livable home. There are a number of good illustrations and general data on insulation.

[Please turn to Page 141]

An excellent example of finely mitred joining—easily accomplished with pliable, non-warping Port Orford Cedar. Hallway of William C. Cavalier residence, Piedmont, California. Albert Farr, architect

Where exactness is essential .....*use* this cream-white cedar

Non-warping, yielding readily to tools, Port Orford Cedar is ideal for woodwork of precise, delicate detail.

Port Orford Cedar adapts itself to practically every interior. Silken-smooth, it enamels to a beautiful porcelain-like luster. No trace of grain shows through. No unusual priming coat is necessary. Never crinkles or blisters.

Cream-white, this fine wood easily takes a rich, warm walnut or mahogany stain. Free from pitch and knots. Never splinters or checks. Easily machined to special designs.
Your millwork manufacturer lumber dealer has Port Orford Cedar lumber or can obtain it promptly.

Mail the coupon to our sales agents for complete information about Port Orford Cedar. Port Orford Cedar Products Company, Marshfield, Oregon.

PORT ORFORD CEDAR PRODUCTS COMPANY
MARSHFIELD, OREGON

90% of the world's electric storage batteries depend upon PORT ORFORD CEDAR

PORT ORFORD CEDAR
The Aristocrat of Woods

Dant & Russell, Inc., Sales Agents,
1103-D Porter Building, Portland, Oregon

Please send me your illustrated monograph "Port Orford Cedar—its Properties and Uses"—also "Fine Interiors with Port Orford Cedar."

Name.....

Address.....

Reduce Dead Load Thru the Bull Dog Method

STEP TWO—RAISING TABS. *A simple, rapid operation, performed when floors are to be laid. Beforethis, dry slab can be used for walking, hauling, storage, etc.*

THE Bull Dog Method of anchoring wood floors over concrete reduces dead load 18,000 lbs. to 1,000 square feet of slab area—making possible tremendous savings in building costs.

Besides, Bull Dog Floor Clips *eliminate dry rot*, doubling floor life. No fill to dry, sleepers and finished floor are laid at same time. Beveling and shimming are unnecessary. Permanent and secure anchorage prevents buckling, squeaking and doming. The Junior Clip (⅝" wide) may be used with or without a fill (dependent on the service duty of the floor.) When a fill between the sleepers is desired, any cheap, inexpensive mix such as sand, cinders or cinder concrete can be used.

Millions of BULL DOG FLOOR CLIPS on over 8,000 jobs carry testimony of satisfaction. Made for 2, 3 and 4 inch sleepers. Regular and Junior Styles. Friction tight nailing facilities (nails gratis.) Write for catalog and samples.

THE BULL DOG FLOOR CLIP CO.
108 N. First Ave., Winterset, Ia.
135 Representatives—15 Warehouse Stocks

BULL DOG Floor Clips

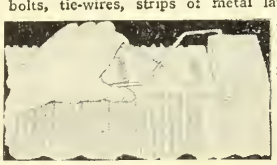
REGULAR CLIP—*3 sizes, 2, 3 and 4 in. 20 gauge galvanized iron.*

Original Patent granted June 14, 1921
Reissue Patent granted June 29, 1924
Process Patent granted May 19, 1925

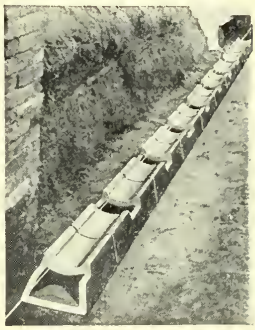
JUNIOR CLIP—*3 sizes, 2, 3 and 4 in. 18 gauge galvanized iron.*

The Bull Dog Buck Anchor

THE Bull Dog Buck Anchor forms a rigid truss in the mortar joint which prevents the movement of the buck in any direction. It eliminates the use of nails, screws, bolts, tie-wires, strips of metal lath and iron, and all pounding against the back sides of the buck. Made in three widths of No. 10 Galvanized Steel Wire: 3 in., 4 in., 6 in. Ten per cent of anchors in packing cases are shorts to take care of spaces too short for the regular size anchor.



Note how Ric-wiL Base Drain is designed for strength. And it actually adds 35% to the strength of the conduit it supports.



Conduit with a Foundation

BASE Drain Foundation is what gives Ric-wiL Conduit for underground steam pipes its rugged strength and efficient drainage—the foundation of its high permanent efficiency.

Set on the trench bottom, this base supports the conduit, interlocking with it in staggered construction to make a compact rigid housing that "stays put." It carries away outside moisture immediately. And it both speeds installation and reduces cost. It is one of the reasons why Ric-wiL efficiency has been averaging well over 90% in recent tests.

Write for Complete Information

THE H. G. SPERRY COMPANY
415 Call Building Phone DO uglas 6408
San Francisco, California

Originators of Waterproof Conduit Filler
RIC-WIL
UNDERGROUND CONDUIT

Detail of Entrance, Rossman Warehouse, San Francisco
FRED'K. H. MEYER, *Architect*

Rossman "Champleve" Tile is used for the exterior, while the vestibule is of Rossman Imported Spanish and "Nubian" Tile.

Rossman Corporation of California

E. L. BRADLEY, *Manager*

49 Geary Street, *San Francisco* — Architects Building, *Los Angeles*

New Sales Manager—M. F. Corin, who, for fourteen years, has been Philadelphia District Sales Manager for the Permutit Company, manufacturers of water treating equipment, has been appoined general sales manager. He will have supervision over 19 branch sales offices throughout the United States and numerous sales agencies in foreign countries.

Time Switches—"Sauter Electric Time Switches" (Bulletin B) are used to open and close main feeders for store and window lighting, and start and stop large electric signs. The Bulletin describes operation and construction. R. W. Cramer & Company, Inc., 136 Liberty St., New York City.

Nicalun For Safe Walkways—A new product has just been added to the line of anti-slip walkway surfaces by the American Abrasive Metals Company of 50 Church Street, New York City, the makers of Feralun, Bronzalun and Alumalun. This new product is called Nicalun and has for a base benedict metal with aluminum oxide incorporated in the surface at the time of casting, giving the same anti-slip surface as the other products. To those familiar with benedict metal, the bright and attractive color is likely to make an appeal for its use as elevator door sills, swing door saddles and stair treads in the highest type of buildings where architectural elegance takes precedence over cost.

Everywhere on the Coast—"Listen In" was the gist of a recent "Postalgram" mailed to every architect, engineer, building contractor and manufacturer on the Pacific Coast by the Pacific Portland Cement Company of San Francisco "and everywhere on the Coast." It was a reminder invitation of the Cement Half Hour over the National Broadcasting network, originating in New York City under the auspices of the Westinghouse Electric and Manufacturing Company, and dedicated to the Cement Industry, on February 18, at 7 p. m. It included, among symphonic selections, a 4-minute address by Frank H. Smith of the Portland Cement Association about its aims and ideals.

Massey Moves Canadian Office—The Massey Concrete Products Corp., and the Canadian Concrete Products Co., Ltd., have moved the Montreal office to Room 310 Dominion Square Building, 1010 St. Catherine Street, West.

Webster Syphon Attachments—It is generally conceded that modernization will play an outstanding part in the building industry during 1930. "Modernizing Obsolete Heating Systems with Webster Syphon Attachments" is the name of a new booklet just

[Please turn to Page 142]

REINFORCING steel for the William Taylor Hotel was fabricated and installed in place by Soulé Steel Company, who have served Architects, Engineers and Contractors in the erection of the Shell, Russ, Telephone, Hunter-Dulin, San Francisco Stock Exchange and other dominating buildings of the San Francisco skyline.

SOULÉ
STEEL COMPANY
San Francisco · Los Angeles · Portland

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Invisible Hinges
(Good Taste + Strength)
Completely invisible when the door is closed. Flush doors—clean lines—no projections. Admittedly the ideal hinge for discriminating work.
A style for every use
See our catalog in Sweet's (pages 1578-9), or write direct to us for samples and complete catalog.
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The **RAY automatic oil burner**

for

Cottage or Mansion.
In Commerce and Industry.
Wherever heat is used.

Manufactured by

Ray Burner Co.

Successor to W. S. Ray Mfg. Co., Inc.

San Francisco

Authorized Sales and Service Dealers in all Principal Cities

published by Warren Webster & Company, Camden, N. J. Every architect and mechanical engineer will find much valuable information in this book which will be mailed on request.

Cork Insulation — Cork insulation, used extensively in the building trades and refrigeration industry, will be manufactured in great volume at a huge new plant recently located at Wilmington, Delaware. Announcement of the $2,500,000 factory to be built on a thirteen-acre site there by The Cork Insulation Company, Inc., of New York, was made by the Chamber of Commerce of the Delaware metropolis. The company will start production from the first unit of eleven large buildings early this spring. Raw materials will be brought from Spain and Portugal by the shipload up to the Delaware River into Wilmington's new Marine Terminal, which adjoins the new cork insulation plant.

American Walnut For Interior Woodwork and Panelling.—A sixteen page brochure beautifully illustrated showing examples of walnut finish in American buildings and homes. Published by the American Walnut Manufacturers' Association, 616 South Michigan Avenue, Chicago, Ill.

G·H·BROWN HARDWOOD COMPANY

1044-1058 Forty-Seventh Avenue
OAKLAND, CALIFORNIA
Telephone: FR uitvale 8305-8306

Specify **DICKEY CLAY PRODUCTS**

The name "DICKEY" is everywhere recognized as a guide to Clay Products of uniformly high quality.

DICKEY MASTERTILE

THE STANDARD HOLLOW BUILDING TILE

Partition Tile	Face Brick
Drain Tile	Fire Brick
Veneering Tile	Paving Brick
Furring Tile	Step & Walk Brick
Fireproofing Tile	Wall Coping
Floor Tile	Flue Lining

DICKEY Flashing Blocks

W. S. DICKEY CLAY MFG. COMPANY
SAN FRANCISCO

INTERESTING MASONRY WALL TESTS

Editor THE ARCHITECT AND ENGINEER,
San Francisco:

Readers of THE ARCHITECT AND ENGINEER may be interested to know that the Clay Products Institute of California has undertaken a very extensive series of tests upon brick and loadbearing clay tile masonry to determine the flexural (bending) values of masonry walls. While the information is chiefly desired for determining wall thicknesses and heights in consideration of earthquake forces, it will also be of great value in other considerations such as wind pressure, retaining walls, etc. The tests will be upon various kinds of brick and loadbearing tile, some specimens wet and others dry, using various mixtures of cement-lime mortars.

Specially designed tests to determine the adhesion of various mortars to various surfaces will be made and studied, as well as volume changes in the built up masonry assemblies over a long period of time. A sufficient number of specimens are being made to permit testing at the ages of 28 days, 2 months, 6 months and 12 months.

A careful study of the results obtained from various kinds of adhesion and modulus of rupture tests which have been made by the Bureau of Standards and other testing laboratories, has convinced this Institute that these tests invariably made at two months, have been under aged and in programming the present series of tests to extend to an age of one year, it is felt that we may expect results more nearly comparable with actual wall strengths of buildings.

Some of the specimens are being loaded each day after being assembled which loading will be slowly and uniformly applied for a period of time which will simulate the condition of the first story of a four story bearing wall building while under construction until the full height of the wall is attained.

The three kinds of mortars to be used are as follows:

No. 1 Mortar, 1 cement, 1 lime putty, 6 sand.
No. 2 Mortar, 1 cement, ½ lime putty, 4½ sand.
No. 3 Mortar, 9-10 cement, 1-10 lime putty, 3 sand.

The testing is being conducted at the testing laboratories of the University of California at Berkeley under the personal direction of Raymond E. Davis, Professor of Civil Engineering, who is an eminent authority on mortars, masonry, volume changes, etc.

Yours very truly,
NORMAN W. KELCH,
Secretary-Manager.

REMOVAL NOTICE

M. E. Hammond, building specialties, announces the removal of his office to the Building Material Exhibit, 557 Market Street, San Francisco.

You can specify....

JOHNSON
OIL BURNERS©
Listed as Standard by Underwriters' Laboratories

for every Heating.... and Power purpose

YOU can specify and use Johnson Automatic oil burning equipment with the assurance that it will give . . . enduring satisfaction, day in and day out, year after year.

For behind every Johnson Burner, lies the experience of more than 25 years in the exclusive manufacture of oil burning equipment.

This experience is reflected in the dependable, economical and trouble-free operation of Johnson Oil Burners in homes, apartments, public buildings, and industrial plants throughout the world.

May we send you further details, also a copy of our catalogue in Sweet's, for use in your drafting room.

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Executive office and factory, 940 Arlington St., Oakland

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THE BEAUTIFUL

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Dealers in Foreign & Domestic Marble

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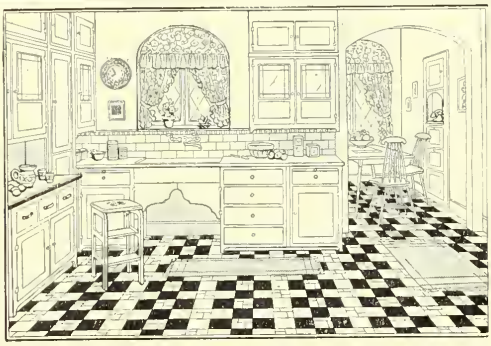
San Francisco » Phone MIssion 0425



Satisfy *your* Client with a Peerless Built-In Kitchen

Every housewife has a desire to have a kitchen in her new home which has style, beauty, and convenience. The kind of kitchen she has seen and admired in display homes.

With PEERLESS plan suggestions the architect can select a kitchen for the housewife that will qualify for her model home. The finished kitchen will be up to her expectations.

Years of thorough study of kitchen problems have made the PEERLESS line of built-in furniture outstanding in style, beauty, and convenience.

Certified ARCHITECTURAL WOOD WORK by MILLWORK INSTITUTE OF CALIFORNIA Manufactured under License Number 32

"The Symbol of Enduring Value in Woodwork"

Only those products which stand the rigid test of enduring quality are certified by the Millwork Institute of California and permitted to be labeled with the official stamp which is the symbol of enduring value in woodwork.

PEERLESS Built-in Furniture

BUILT-IN FIXTURE COMPANY

2608 San Pablo Avenue
Berkeley, California

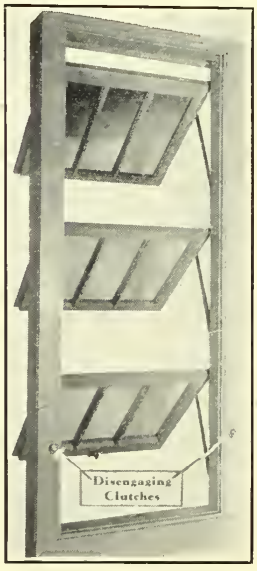
See our Catalogue in Sweets

820 East 60th Street
Los Angeles, California

Ideal for Ventilation

Easy to Operate

Two, three or four sash may be operated at same time



By use of disengaging clutches lower sash may be operated separately

Hauser Multiple Operated Awning Type Windows

Manufactured by

Hauser Window Company

1370 Harrison Street, San Francisco

DEPENDABILITY
"Since 1858"

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LINOLEUMS
CARPETS -:- RUGS

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DUPONT TONTINE
WINDOW SHADES

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Estimates furnished

D.N.&E. WALTER & CO.

WHOLESALE CONTRACT DEPT.
562-572 MISSION STREET
SAN FRANCISCO

1930 WAGE SCHEDULE FOR SAN FRANCISCO BUILDING TRADES

Craft	Journeymen Mechanics
'Asbestos workers	$ 8.00
Bricklayers	11.00
Bricklayers' hodcarriers	7.00
Cabinet workers, (shop)	7.50
Cabinet workers, (outside)	9.00
Carpenters	9.00
Cement finisbers	9.00
Electric workers	9.00
Electrical fixture hangers	8.00
Elevator constructors	10.00
Elevator helpers	7.00
Engineers, portable and hoisting	9.00
Glass workers	8.50
Hardwood floormen	9.00
Housemovers	8.00
Housesmiths, arch. iron, skilled all branches	9.00
Housesmiths, arch. iron, not skilled all branches	8.00
Housesmiths, reinforced concrete, or rodmen	9.00
Iron workers (bridge & structural) including engineers	11.00
Laborers, building (6-day week)	5.50
Lathers, channel iron	10.00
*Lathers, all other	8.50
Marble setters	10.00
Marble helpers	6.00
Marble cutters and copers	8.00
Marble bed rubbers	7.50
Marble polishers and finishers	7.00
Millmen, planing mill department	7.00
Millmen, sash and door	6.00
Millwrights	8.00
Model makers	10.00
Model casters	9.00
Mosaic and Terrazzo workers	9.00
Mosaic and Terrazzo helpers	6.00
Painters	9.00
Painters, varnishers and polishers (shop)	7.50
Painters, varnishers and polishers (outside)	9.00
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*On wood lath if piece rates are paid they shall be not less than such an amount as will guarantee, on an average day's production of 1600 lath, the day wage set forth.

Eight hours shall constitute a day's work for all Crafts except as otherwise noted.

Plasterer's hodcarriers, bricklayers' hodcarriers, roofers, laborers, and engineers, portable and hoisting, shall start 15 minutes before other workmen, both at morning and noon.

Five days, consisting of eight hours on Monday to Friday inclusive, commencing January 31, 1930, shall constitute a week's work.

Overtime shall be paid as follows: For the first four hours after the first eight hours, time and one-half. All time thereafter shall be paid double time. Saturday (except laborers), Sundays from 12 midnight Friday, and Holidays from 12 midnight of the preceding day shall be paid double time. On Saturday laborers, building, shall be paid straight time.

Where two shifts are worked in any twenty-four hours shift time shall be straight time. Where three shifts are worked, eight hours pay shall be paid for seven hours on the second and third shifts.

[Turn to Page 155]

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All work shall regularly be performed between the hours of 8 A. M. and 5 P. M., provided, that in emergencies or where premises cannot be vacated for work by mechanics until the close of business, men then reporting for work shall work at straight time; but any work performed after midnight shall be paid time and one-half except on Saturdays, Sundays, and holidays, when double time shall be paid.

Recognized holidays to be New Year's Day, Decoration Day, Fourth of July, Labor Day, Admission Day, Thanksgiving Day and Christmas Day.

Men ordered to report for work, for whom no employment is provided, shall be entitled to two hours pay.

EXCEPTIONS TAKEN BY INDUSTRIAL ASSOCIATION OF SAN FRANCISCO

Editor The Architect and Engineer,
San Francisco, California.

Our attention has been called to the table entitled "Estimator's Guide" appearing on pages 133 and 134 of your February, 1930, issue and including therein what purports to be the 1930 Wage Scale for San Francisco building trades mechanics.

We desire to call your attention to the fact that since 1921 the building trades wages have been established through the medium of an Impartial Wage Board and that this Board, which last met in 1928 and promulgated a scale for 1929, gave serious consideration to the matter of the five-day week and determined that, on account of the diversity of testimony at that time, no recommendation in regard to the five-day week should be made.

The Board further stated that because of the possible interference of crafts unless all were operating on the five-day week basis, it appeared to be impractical for some crafts to be operating on this basis and others to be operating on the 5½-day week basis.

At a meeting of The Builders' Exchange held on December 20, 1929, a resolution was adopted calling for the establishment of the five-day week and setting forth that work performed on Saturday morning should call for the payment of double time. Many contractors who are members of the Builders' Exchange were not present at this meeting and it was felt by these, as well as some contractors who were present at the meeting, that the action taken by the Exchange was hasty and that insufficient consideration was given to all of the factors involved in changing to the five-day week.

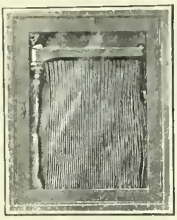
At the present time, investigation discloses that many contractors are operating their jobs 5½ days per week and are paying straight time for Saturday morning.

This Association has consistently taken the position that until such time as the Wage Board may alter the working conditions as established by it in relation to the five-day week, we must abide by the decision of the Impartial Wage Board.

We feel that, so long as this situation prevails and so long as contractors in San Francisco are working both on the 5-day and 5½-day week basis, the apparently authoritative data contained in your valuable publication should conform to the actual facts and not misrepresent the local situation.

Very truly yours,

INDUSTRIAL ASSOCIATION OF SAN FRANCISCO
ARTHUR E. BOYNTON,
Managing Director.



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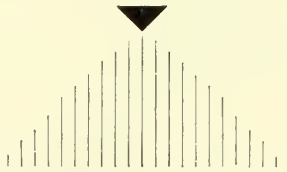

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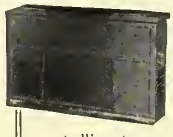

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WASHINGTON STATE CHAPTER

The thirty-fifth annual meeting of Washington State Chapter adjourned from the usual date in January to take advantage of the special visit of Institute officers, was held at the Olympic Hotel, Seattle, Saturday, February 8. The proceedings began with a luncheon at which the Chapter had the pleasure of meeting the Institute officers, President C. Herrick Hammond, First Vice-President J. Monroe Hewlett and Regional Director Fred Fielding Willson of Bozeman, Montana.

After the luncheon the meeting was called to order by President Ford, who welcomed the distinguished guests, expressing a hope that they would consider themselves a part of the meeting and would favor the members with some remarks.

The minutes of the meeting in January were read and approved. The President then gave his address, which was a resume of the Chapter's activities and accomplishments during the year. Mention was made of the Chapter's efforts to assist in getting the new King County Hospital properly under way, of the work in conjunction with the Institute on the ever important subject of publicity and efforts to expedite the construction of federal buildings in Seattle with some measure of participation by local architects. The financial condition of the Chapter was favorably commented upon and the work of the Civic Design Committee especially commended. The president said he entered upon the duties of his office with some reluctance, but had found the experience interesting and thoroughly worth while.

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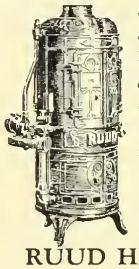

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